6-2023

Why Economists Should Support Populist Antitrust Goals

Mark Glick
University of Utah, mark.glick@law.utah.edu

Gabriel A. Lozada
University of Utah

Darren Bush
University of Houston Law Center, dbush@central.uh.edu

WHY ECONOMISTS SHOULD SUPPORT POPULIST ANTITRUST GOALS

Mark Glick,[*] Gabriel A. Lozada,[**] & Darren Bush[***]

TABLE OF CONTENTS

[*] © 2023 Mark Glick. Professor of Economics and Adjunct Professor of Law, University of Utah.

[**] © 2023 Gabriel A. Lozada. Associate Professor of Economics, University of Utah.

[***] © 2023 Darren Bush. Leonard B. Rosenberg Professor of Law, University of Houston Law Center.

INTRODUCTION

Antitrust policy can be a powerful tool to tackle important social and economic problems. For decades antitrust enforcement has been shackled by the so-called Consumer Welfare Standard ("CWS") that has limited the goals considered to be "legitimate."[1] The CWS limits antitrust goals to those that impact demand, primarily in output markets. Recently, new voices have suggested that antitrust policy should address several other important social objectives. Such goals include the traditional antitrust goals that motivated passage of the antitrust statutes, and which were discussed in Pre-Rehnquist Court opinions, including dispersion of economic and political power and protection of small business.[2] Additionally, it has been suggested that antitrust law should contribute to alleviating inequality,[3] protect labor when mergers occur or in the presence of monopsony,[4] protect macroeconomic growth

---

[1] *See* A. Douglas Melamed & Nicolas Petit, *The Misguided Assault on the Consumer Welfare Standard in the Age of Platform Markets*, 54 REV. INDUS. ORG. 741, 747 (2019) ("The [CWS] provides a substantive constraint on discretionary decision-making."); Herbert Hovenkamp, *Is Antitrust's Consumer Welfare Principle Imperiled?*, 45 J. CORP. L. 65, 68 (2019).

[2] *See* Stephen Martin, *Dispersion of Power as an Economic Goal of Antitrust Policy*, 4–45 (Purdue Univ., Working Paper No. 1285, 2016) (collecting relevant citations); Harlan M. Blake & William K. Jones, *Toward a Three-Dimensional Antitrust Policy*, 65 COLUM. L. REV. 422, 439 (1965); Sanjukta Paul, *Recovering the Moral Economy Foundations of the Sherman Act*, 131 YALE L.J. 175, 247 (2021).

[3] *See* Lina M. Khan & Sandeep Vaheesan, *Market Power and Inequality: The Antitrust Counterrevolution and Its Discontents*, 11 HARV. L. & POL'Y REV. 235, 235–36 (2017); Jonathan B. Baker & Steven C. Salop, *Antitrust, Competition Policy, and Inequality*, 104 GEO. L.J. ONLINE 1, 13 (2015); JOSEPH E. STIGLITZ, THE PRICE OF INEQUALITY: HOW TODAY'S DIVIDED SOCIETY ENDANGERS OUR FUTURE 57–58 (2012).

[4] *See* ERIC POSNER, HOW ANTITRUST FAILED WORKERS 61 (2021); Ioana Marinescu & Herbert J. Hovenkamp, *Anticompetitive Mergers in Labor Markets*, 94 IND. L.J. 1031, 1038 (2019); Maurice E. Stucke, *Looking at the Monopsony in the Mirror*, 62 EMORY L.J. 1509, 1510 (2013); Hiba Hafiz, *Interagency Merger Review in Labor Markets*, 95 CHI.-KENT L. REV. 37, 66 (2020); Clayton J. Masterman, *The Customer Is Not Always Right: Balancing Worker and Customer Welfare in Antitrust Law*, 69 VAND. L. REV. 1387, 1422 (2016).

and stability when financial entities merge,[5] and possibly contribute to efforts to advance sustainability.[6]

While some argue that the CWS is flexible enough to support some or all of these objectives, we disagree.[7] There are at least five reasons why the CWS is severely limited or defective, preventing it from being an appropriate standard for modern antitrust, as explored in Parts II through VI below. First, it is a "material welfare" approach derived from Alfred Marshall, meaning an approach that cannot incorporate important issues that affect welfare, such as political democracy and sustainability. This is made clear in the writings of Marshall and Pigou, the originators of the theory imported into antitrust by Judge Bork. Second, the CWS assumes that the marginal utility of money (or the marginal social welfare with respect to a change in anyone's surplus) is constant and equal among individuals impacted by anticompetitive practices. As a consequence, the CWS treats as inconsequential transfers of income between groups resulting from alleged restraints or mergers. Third, the CWS is biased in favor of the wealthy, despite Part III's findings that the CWS is neutral with respect to marginal transfers. Fourth, the CWS uses an indefensible measure of efficiency. And fifth, the CWS ignores the input market when analyzing restraints in the output market.

The CWS is a narrow surplus approach to welfare. Some economists have advocated a wider general surplus approach taking into account all changes in

---

[5] *See* Michael E. Porter, *Competition and Antitrust: A Productivity-Based Approach*, 46 ANTITRUST BULL. 919, 950 (2001); MICHAEL E. PORTER, THE COMPETITIVE ADVANTAGE OF NATIONS 33–68 (1990); *see also* F.M. Scherer, *A Perplexed Economist Confronts 'Too Big to Fail,'* 7 EUR. J. COMPAR. ECON. 267 (2010); Gina M. Killian*, Bank Mergers and the Department of Justice's Horizontal Merger Guidelines: A Critique and Proposal*, 69 NOTRE DAME L. REV. 857, 889 (2014).

[6] ABA Antitrust Law Section, *Antitrust and Sustainability: Part of the Solution or Part of the Problem?*, YOUTUBE (July 14, 2022), https://www.youtube.com/watch?v=ykNhjDbv ysM [https://perma.cc/E23E-K79S]; Simon Holmes & Michelle Meagher, *A Sustainable Future: How Can Control of Monopoly Power Play a Part?*, EUR. BUS. COUNCIL FOR AFR. (May 3, 2022), https://www.ebcam.eu/publications/reference-reports-and-documents/3103-a-sustainable-future-how-can-control-of-monopoly-power-play-a-part [https://perma.cc/F8 26-LGN7].

[7] Others have argued that the CWS should be replaced with a "competitive process" goal. Jonathan Jacobson, *Another Take on the Relevant Welfare Standard for Antitrust*, ANTITRUST SOURCE (Aug. 2015), https://www.wsgr.com/PDFSearch/jacobson-0815.pdf [https://perma.cc/VL5X-4ZCX]. We think that this approach confuses means with an end. Saying protecting the competitive process is the goal does not tell when that process is in danger, or when the competitive process may result in favorable policy outcomes and when it could result in unfavorable policy outcomes. In this respect, we agree with Hovenkamp and Elhauge. *See* Herbert Hovenkamp, *The Slogans and Goals of Antitrust Law*, N.Y.U. J. LEGIS. & PUB. POL'Y (forthcoming 2023) (manuscript at 46), https://papers.ssrn.com/sol3/ papers.cfm?abstract_id=4121866 [https://perma.cc/9R78-TV57]; Elner Elhauge, *Should the Competitive Process Test Replace the Consumer Welfare Standard*, PROMARKET (May 24, 2022), https://www.promarket.org/2022/05/24/should-the-competitive-process-test-replace-the-consumer-welfare-standard/ [https://perma.cc/828G-C3ZZ].

surplus of impacted trading partners.[8] We think any surplus approach is misguided. Economists that specialize in welfare analysis have generally rejected the surplus approach for a variety of reasons, some of which are discussed in this Article. For example, 2015 Economics Nobel laureate Angus Deaton rejected the surplus approach that is the basis of the CWS decades ago, saying that "there is no valid theoretical or practical reason for ever integrating under a Marshallian demand curve" (that is, for calculating consumer surplus).[9]

Around 1940, John Hicks and Nicholas Kaldor proposed a "New Welfare Economics" to replace the surplus approach. As we explain in Part VII, while this resolved some of the problems of the surplus approach, it did not fix all of them, and it generated new ones. We agree with prominent welfare economists John Chipman and James Moore, who concluded their 1978 review article with the assessment that "the New Welfare Economics must be considered a failure."[10]

Because microeconomics plays a valuable role in antitrust analysis, the assessment of consummate economic theorists such as Chipman and Moore should be taken seriously. So should the reaction of specialists in welfare economics to such critiques. Their response was to abandon both the CWS and the New Welfare Economics. Today, welfare economists largely conduct normative policy evaluation using the social welfare function framework or the capabilities framework, both of which can be adopted to evaluate antitrust goals. In these frameworks, no aspects of welfare are *a priori* rejected, all individuals impacted are taken into consideration, and objective evidence of what matters to human well-being can be considered.[11] These are precisely the characteristics that are absent from the CWS, and which allow for the flexibility that many antitrust reformers seek.

Indeed, today there is significant economic research underway evaluating the factors that are important to human welfare (human well-being or quality of life).[12]

---

[8] *See Opening Statement of Professor Carl Shapiro: "The Consumer Welfare Standard in Antitrust: Outdated, or a Harbor in a Sea of Doubt": Before the S. Judiciary Comm., Subcomm. on Antitrust, Consumer Protection and Consumer Rights*, 115th Cong. (Dec. 13, 2017), https://www.judiciary.senate.gov/imo/media/doc/12-13-17%20Shapiro%20Testimony.pdf [https://perma.cc/2D3J-SBDX] ("As I use the term, applying the 'consumer welfare' standard means that a business practice is judged to be anti-competitive if it disrupts the competitive process and harms trading partners on the other side of the market."); C. Scott Hemphill & Nancy L. Rose, *Mergers that Harm Sellers*, 127 YALE L.J. 2078, 2080 (2018) (advocating "trading partner welfare" as the proper standard).

[9] Marco Becht, *The Theory and Estimation of Individual and Social Welfare Measures*, 9 J. ECON. SURVEYS 53, 77 (1995) (quoting Angus Deaton).

[10] John S. Chipman & James Moore, *The New Welfare Economics 1939–1974*, 19 INT'L. ECON. REV. 547, 548 (1978).

[11] MATTHEW ADLER, MEASURING SOCIAL WELFARE: AN INTRODUCTION 3–4 (2019).

[12] *See, e.g.*, JOSEPH E. STIGLITZ, AMARTYA SEN & JEAN-PAUL FITOUSSI, MIS-MEASURING OUR LIVES: WHY GDP DOESN'T ADD UP (2010); ALEX C. MICHALOS, DEVELOPMENT OF QUALITY OF LIFE THEORY AND ITS INSTRUMENTS (2011); WELL-BEING: THE FOUNDATIONS OF HEDONIC PSYCHOLOGY (Daniel Kahneman, Ed Diener, and Norbert Schwarz eds. 1999); Devrim Dumludag, *Bruno S. Frey: Economics of Happiness*, 126 J. ECON. 291 (2019); MARK ANIELSKI, THE ECONOMICS OF HAPPINESS (2007).

Critically, evidence-based, objective research by economists and psychologists shows that many of the goals discussed in the opening of this Article have an enormous impact on human well-being, including political democracy, access to independent entrepreneurship, income inequality, and unemployment. Use of this evidence can make a more general welfare approach to antitrust goals tractable.[13]

We suggest that there are three questions that must be addressed when considering an antitrust criterion. First: is there credible social science research showing that the policy goals embodied in the criterion result in material increases in human well-being (the basis of economic welfare)? Second: can competition policy substantially advance the criterion? Finally, does the criterion provide a method for dealing with tradeoffs between the goals it embodies if such tradeoffs are present? The CWS is so seriously limited that it does not even allow consideration of the first requirement. A more general welfare approach certainly can address the first two questions and may hold promise for satisfying the third.

I. THE ORIGINS OF THE CWS

The CWS was introduced by Judge Robert Bork as part of the Chicago School revolution in antitrust.[14] In early articles, Judge Bork described the CWS goal as "wealth maximization." For example, he wrote in the *Yale Law Journal* in 1965:

> The existing scope and nature of the Sherman Act, as well as considerations of effective administration, thus indicate the statute is better suited to implement the policy of wealth maximization than the policies underlying the Brandeis approach.[15]

---

[13] Amartya Sen, *Capability and Well-Being*, in THE QUALITY OF LIFE 36–37 (Martha Nussbaum & Amartya Sen eds. 1993); DEREK PARFIT, REASONS AND PERSONS 499 (1984); JAMES GRIFFIN, WELL-BEING: ITS MEANING, MEASUREMENT, AND MORAL IMPORTANCE (1988).

[14] Even today the origin and meaning of the CWS is misunderstood. As Marshall Steinbaum and Maurice Stucke explain:

> 30 of 33 countries in a 2007 survey by the International Competition Network (ICN) identified consumer welfare as an antitrust objective. But most agencies did 'not specifically define consumer welfare and appear[ed] to have different economic understandings of the term.' Similarly, a 2011 ICN survey, although finding 'some agreement' among the 57 surveyed competition authorities, identified significant differences. Only 7 of the 57 authorities agreed with the provided definition of consumer welfare. Most (38) of the antitrust authorities had 'no explicit definition' of consumer welfare.

MARSHALL STEINBAUM & MAURICE E. STUCKE, THE EFFECTIVE COMPETITION STANDARD, 11–12 (2018) (alteration in original); *see also* ELIZABETH POPP BERMAN, THINKING LIKE AN ECONOMIST 129–153 (2022).

[15] Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division*, 74 YALE L.J. 775, 838 (1965).

The reference to wealth maximization also made its way into *The Antitrust Paradox*, where Bork, summarizing the concept of the CWS, stated that "Consumer Welfare, in this sense, is merely another term for the wealth of the nation. Antitrust, thus, has a built-in preference for material prosperity, but it has nothing to say about the ways prosperity is distributed or used."[16] Bork contended that wealth maximization was a goal that eliminated value judgments from antitrust.[17] By "value judgments," Bork meant the traditional antitrust goals of protecting small business and dispersing economic and political power.[18]

Wealth maximization is not free from value judgments because the measurement of wealth depends on current prices, which in turn depend on income distribution.[19] To see why this is the case, consider a society composed of some people who love apples and hate bananas, and other people whose tastes are the opposite. Suppose the apple lovers are rich and the banana lovers are poor. Then "wealth maximization" calls for producing lots of apples and few bananas because the demand for apples will be high and the demand for bananas will be low, leading to high prices for apples and low prices for bananas. Since wealth is the sum of prices multiplied by output, adding more apples would increase wealth more than adding more bananas. But if instead, the banana lovers are rich and the apple lovers are

---

[16] ROBERT BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF 89 (Bork Publ'g 2021) (1978).

[17] Bork, *supra* note 15 ("Because [antitrust] serves the single, unchanging value of wealth maximization it does not require the courts to choose or weigh ultimate values in the decision of individual cases or in the continuing evolution of doctrine.").

[18] Richard Posner was more candid, conceding in a 1990 book that the wealth maximization goal supported the interests of the "dominant groups" and therefore embodied a value judgment. RICHARD A. POSNER, THE PROBLEMS OF JURISPRUDENCE 391 (1990) ("Wealth maximization is an ethic of productivity and social cooperation—to have a claim on society's goods and services you must be able to offer something that other people value . . . . And an ethic of productivity and cooperation is more congruent with the values of the dominant groups in our society than the pure utilitarian ethic would be.").

[19] Wealth Maximization, where wealth is defined using current prices, is not an objective measure of efficiency because, as Kaplow and Shavell point out, "one must know the prices of different goods and services, yet there is no natural set of prices to use." LOUIS KAPLOW & STEVEN SHAVELL, FAIRNESS VERSUS WELFARE 36 (2002). To apply the principle of wealth maximization one must take current prices as a given and then compute the wealth implication of the policy under consideration. However, once the policy impacts legal rules and distribution, relative prices change and wealth changes. *See* Jules Coleman, *Efficiency, Utility and Wealth Maximization*, 8 HOFSTRA L. REV. 509, 525–26 (1980); *see also* Daniel W. Bromley, *The Ideology of Efficiency: Searching for a Theory of Policy Analysis*, 19 J. ENV'T ECON. & MGMT. 86–107, 92 (1990) ("Only later [than Kaldor] would it be realized that one did not know—indeed, one could not know—the *value* of production independent of the distribution of income and the associated price vector that provided the weights to the various physical quantities being produced.").

poor, then wealth is increased by producing more bananas than apples.[20] Clearly, the "wealth maximization" criterion is anything but independent of a value judgment about the prevailing income distribution.[21]

Economists trained in industrial organization may be forgiven for ignoring the welfare effects of distribution. In his leading graduate textbook on Industrial Organization, Jean Tirole candidly admits:

> In this book, I will treat income distribution as irrelevant. In other words, the redistribution of income from one consumer to another is assumed to have no welfare effect. (The marginal social utilities of income are equalized.) I certainly do not feel that actual income distributions are optimal, even with an optimal income-tax structure (because there are limits and costs to income taxation, as is emphasized by the optimal-taxation literature). Market intervention does have desirable or undesirable income-redistribution effects. But I will focus on the efficiency of markets . . . .[22]

The efficiency of markets, though, is judged by Tirole and many others using measures such as consumer surplus, which are derived from demand curves, and demand. Demand curves, in turn, depend on income distribution, so the separation between efficiency and distribution is artificial and untenable.[23]

In *The Antitrust Paradox*, Judge Bork abandoned "wealth maximization" and took a different tack. He repackaged Alfred Marshall's consumer's surplus model as

---

[20] In *The Economics of Welfare*, Pigou showed that GDP and welfare can move in different directions because changes in prices impact real distribution, which in turn, can impact welfare. *See* ARTHUR PIGOU, THE ECONOMICS OF WELFARE 58 (1932); John S. Chipman & James C. Moore, *Why an Increase in GNP Need Not Imply an Improvement in Potential Welfare*, 29 KYKLOS 391, 392–93 ("In short, if an index of welfare is what we want, we cannot rely on GNP alone. . . .").

[21] Economists' adoption of a standard that values only wealth is not based on a social consensus, and thus is also simply a value judgment. *See* Bromley, *supra* note 19, at 97.

[22] JEAN TIROLE, THE THEORY OF INDUSTRIAL ORGANIZATION 12 (1989).

[23] An observer who judges the current allocation of commodities to be unjust may judge a "more efficient" allocation to be even less just. This is true not only for the "Potential Pareto" notion of efficiency used by Tirole, *see generally id.*, it is also true for the "Pareto" notion of efficiency. Dasgupta and Heal write:

> The fact that a vector of acts is Pareto efficient does not offer sufficient ground for it to be regarded as optimal—or even desirable. Typically, one would be concerned with the distribution of utilities, and it is possible that a vector of acts sustains an equilibrium [and is efficient] . . . and at the same time yields a distribution of utilities that one may deplore. This is, of course, familiar matter . . . .

P. S. DASGUPTA & G. M. HEAL, ECONOMIC THEORY AND EXHAUSTIBLE RESOURCES 17 (1979).

the basis for the CWS. He introduced Marshall's approach in Chapters 4 and 5 of *The Antitrust Paradox*. He did so by using a graph based on a standard "Economics 101" understanding of demand and price in a perfectly competitive market:

Figure 1: Consumer's Surplus in Perfect Competition[24]
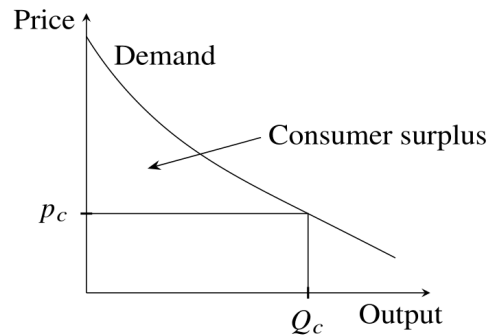
First, interpret the graph as illustrating the demand curve for only one person, not the entire market. In Marshall's approach, the "value" of, say, Qc apples to this person is the area under their demand curve for apples, between zero and Qc apples. This represents the amount of money they are willing and able to pay for Qc apples—or so it was thought. (Actually, it is only an approximation of this; it is also only an approximation to the amount of money they would be willing to accept in lieu of Qc apples, which is, in general, not the same thing. This is explained further in Part VII.A below.) This area under the demand curve was also thought to be a representation in dollars of the consumer's utility from Qc apples, although this is not a completely correct idea either. In return for receiving this value (loosely speaking), the consumer merely has to pay the rectangle defined by uniform competitive price, Pc, times the quantity purchased, Qc. Thus, the consumer's "value" for Qc apples exceeds his expenditure by an amount called the consumer's surplus, which is equal to the area between the demand curve and the uniform competitive price.[25] Likewise, "producer surplus" is the excess of what the producer receives for a commodity, over their variable cost of producing that commodity. In input markets, the "economic rent" accruing to an input supplier is the excess of what an input supplier receives for the input, over the minimum payment required to induce them to supply that input. In sum, there are several different types of "surplus," generated in both output and input markets.

---

[24] Bork, *supra* note 16, at 107.

[25] Even under this assumption, however, it is not clear that consumers' surplus results in greater welfare. For example, suppose the product at issue is cigarettes. Greater consumption of cigarettes due to lower cigarette prices will not likely result in greater human well-being. This point is made by Barak Orbach, who distinguishes between surplus and welfare. *See* Barak Y. Orbach, *The Antitrust Consumer Welfare Paradox*, 7 J. COMP. L. & ECON. 133, 133 (2011).

II. THE FIRST LIMITATION OF THE CWS: ONLY FACTORS THAT AFFECT SURPLUS COUNT

In Marshall's presentation of the consumer's surplus approach, he made it clear that he was only measuring one part of total welfare, that aspect he referred to as "economic welfare." Marshall, and Arthur Pigou, were part of the material welfare school that limited their inquiries about welfare to the impact of markets for goods and services.[26] Marshall wrote:

> [E]conomics is, on the one side, a Science of Wealth; and, on the other, that part of the Social Science of man's action in society, which deals with his Efforts to satisfy his Wants, in so far as the efforts and wants are capable of being measured in terms of wealth, or its general representative, i.e., money.[27]

Marshall acknowledged that "not all desirable things are reckoned as wealth."[28] In other words, while many factors affect welfare, he confined his analysis only to the impact of the acquisition of goods and services.[29] Marshall's approach was limited for tractability purposes, and he was careful not to imply that the other welfare impacts were not important for policy purposes.

Arthur Pigou, in his book *The Economics of Welfare*,[30] is even more explicit that economic welfare is only that part of total welfare "that can be brought directly or indirectly into relation with the measuring-rod of money."[31] Economic welfare is "only part of welfare as a whole."[32] Accordingly, when policy goals are not measured by payment in a market, they are not part of the Marshall/Pigou paradigm.[33] There is no implication therefore that policy should not address them. But this is exactly the implication that was made by the Chicago School when it suggested the Marshall/Pigou theory as the basis for antitrust policy.

---

[26] Cooter and Rappoport describe Marshall and Pigou as the "material welfare school." Robert Cooter & Peter Rappoport, *Were the Ordinalists Wrong About Welfare Economics?*, 22 J. ECON. LITERATURE 507, 512 (1984) ("The conceptual framework offered by the material welfare school can be contrasted with contemporary ordinalism in terms of three central elements: the definition of economics, the conception of the economic method, and substantive empirical claims about utility").

[27] ALFRED MARSHALL, PRINCIPLES OF ECONOMICS 49 (8th ed. 1949).

[28] *Id*. at 54.

[29] *Id*. at 134 ("When we speak of the dependence of wellbeing on material wealth, we refer to the flow or stream of wellbeing as measured by flow or stream of incoming wealth and the consequent power of using and consuming it.").

[30] PIGOU, *supra* note 20.

[31] *Id*. at 11.

[32] *Id*. at 12.

[33] Marshall and Pigou acknowledged the importance to human welfare of factors outside of their economics. They wrote extensively about the impact of poverty and family issues on human welfare. *See* Theodore Levitt, *Alfred Marshall: Victorian Relevance for Modern Economics*, 90 Q.J. ECON. 425 (1976).

Indeed, many of the major factors that impact human quality of life, i.e., welfare, cannot be supported by the CWS. For example, issues such as health, education, political voice and participation, sustainability, income inequality, and human connections are only addressed to the extent they are part of a private market transaction; otherwise, they are outside of the purview of the theory.[34] Moreover, internal processes of firms, and governance structures, are also explicitly excluded from consideration. Critically, the traditional goals of antitrust, such as political democracy, the benefits of a vibrant small business sector, and access to entrepreneurship, are excluded *a priori* by the CWS. Research since that time has shown that democracy can enormously affect human well-being. This, and the fact these objectives motivated Congress in passing the antitrust laws in the first place, makes the jettison of these goals indefensible, supporting the position Utah legal scholar John Flynn took as early as 1983.[35]

Significant research shows that democracy is a major factor in human well-being and quality of life. Bruno Frey summarizes the literature on democracy and well-being in his book *Happiness: A Revolution in Economics*.[36] He concludes:

> Overall, these results suggest that individuals living in countries with more extensive democratic institutions feel happier with their lives according to their own evaluation than individuals in more authoritarian countries. These results are not prompted by directly asking whether individuals would be happier living in a democracy. Rather, the subjective, self-reported evaluation of well-being has been gathered, independent of the objective political conditions. Moreover, many other influences on happiness are controlled for, and a certain amount of trust can therefore be placed in the results.[37]

Concern with the traditional antitrust goal of dispersion of economic and political power is of long standing.[38] Both Senator Sherman and Senator Hoar,

---

[34] STIGLITZ, SEN & FITOUSSI, *supra* note 12 (discussing the factors that research has revealed impact quality of life).

[35] John J. Flynn, *"Reaganomics" and Antitrust Enforcement: A Jurisprudential Critique,* 1983 UTAH L. REV. 269, 269–312 (1983)*; see also* Jorge L. Contreras, *Free Market State (Of Mind): Antitrust Federalism, John J. Flynn and the Utah Constitution's Free Market Clause*, 7 UTAH L. REV. 1 (2022) (providing detailed analysis of John Flynn's work and its contribution to antitrust policy).

[36] STIGLITZ, SEN & FITOUSSI, *supra* note 12, at 78 ("Political voice is an integral dimension of the quality of life."); BRUNO FREY, HAPPINESS: A REVOLUTION IN ECONOMICS 64 (2008).

[37] FREY, *supra* note 36, at 64; *see also* Bruno Frey & Alois Stutzer, *Happiness, Economy and Institutions*, 110 ECON. J. 918, 926 (2000).

[38] The same case could be made for protection of small business, which was clearly a Congressional purpose for passage of the antitrust statutes, as evidenced by Chief Justice Warren's statement that "It is competition, not competitors, which the Act protects. But we

important drafters of the Sherman Act, expressed concern that monopolies would undermine democracy.[39] Such concerns were expressed by Congress in passing the Clayton Act and the FTC Act.[40] Concerns about democracy were prominent in passage of the Celler-Kefauver Act.[41] Supreme Court Justices have also linked the Sherman Act with a defense of political democracy.[42] Moreover, many authors have argued that competition policy could have an important role in protecting and advancing political democracy.[43] For example, Louis Brandeis argued in the early twentieth century that "we have to make a choice. We may have democracy, or we may have wealth concentrated in the hands of the few, but we can't have both."[44] Paul Krugman has made the same point: "Extreme concentration of income is incompatible with real democracy."[45] Clearly, not only corporate size, but the degree of competition in communications, social networks, and the media can influence democracy.[46]

Since political democracy was a congressional goal that was one of the purposes of the antitrust statutes; since competition policy can help achieve this goal; and since studies show that democracy is an important factor in human well-being,

---

cannot fail to recognize Congress' desire to promote competition through the protection of viable, small locally owned businesses." Brown Shoe Co. v. United States, 370 U.S. 294, 344 (1962). Competition policy can certainly impact small business through enforcement of the Robinson-Patman Act and merger enforcement and prosecution of monopolization cases that exclude smaller rivals. *See* STACY MITCHELL, BIG-BOX SWINDLE: THE TRUE COST OF MEGA-RETAILERS AND THE FIGHT FOR AMERICA'S INDEPENDENT BUSINESS (2006). Moreover, economic research shows that self-employed persons typically are more satisfied with their jobs than employees at large corporations. *See generally* Matthias Benz & Bruno Frey, *Being Independent Is a Great Thing: Subjective Evaluations of Self-Employment and Hierarchy,* 75 ECONOMICA 362 (2008); Stefan Schneck, *Why the Self-Employed Are Happier: Evidence from 25 European Countries*, 67 J. BUS. RSCH. 1043 (2014). However, not all studies are consistent. *See* Sana El Harbi & Giles Grolleau, *Does Self-Employment Contribute to National Happiness?* 41 J. SOCIO. ECON. 670 (2012).

[39] *See* David Millon, *The Sherman Act and the Balance of Power*, 61 S. CAL. L. REV. 1219, 1277–78 (1988).

[40] Zephyr Teachout & Lina Khan, *Market Structure and Political Law: A Taxonomy of Power*, 9 DUKE J. CONST. L. & PUB. POL. 37, 62–63 (2014).

[41] Robert H. Lande & Sandeep Vaheesan, *Preventing the Curse of Bigness Through Conglomerate Merger Legislation*, 52 ARIZ. ST. L.J. 75, 84–86 (2020).

[42] *See, e.g.*, U.S. v. Columbia Steel Co., 334 U.S. 495, 535 (1948) (Douglas, J., dissenting).

[43] Martin, *supra* note 2.

[44] JACOB HACKER & PAUL PIERSON, LET THEM EAT TWEETS: HOW THE RIGHT RULES IN AN AGE OF EXTREME INEQUALITY 19 (2020) (quoting Justice Brandeis).

[45] *See* JOSEPH STIGLITZ, THE PRICE OF INEQUALITY: HOW TODAY'S DIVIDED SOCIETY ENDANGERS OUR FUTURE 137 (2012) (quoting Krugman).

[46] *See* Jonathan Ian Gleklen, Michael D. Hausfeld, Jonathan M. Jacobson, Barry C. Lynn, Leslie C. Overton, Zephyr Teachout & Diane P. Wood., *Can Antitrust Repair the World? Should it?* 36 ANTITRUST 4, 17 (2022) (quoting Zephy Teachout as saying: "I think it is pretty hard to say that the market structure in communications infrastructure isn't relevant for democracy. This one's a no-brainer.").

it seems perverse to exclude this goal based on the assumptions made by Marshall for an entirely different reason.

III. A SECOND LIMITATION OF THE CWS: TRANSFERS OF INCOME BETWEEN THE RICH AND THE POOR ARE CONSIDERED WELFARE-NEUTRAL

A. The Surplus Approach to Social Welfare

Marshall's consumer's surplus is only useful to antitrust analysis if it can be extended from a single individual to markets because competitive restraints are analyzed in markets. Marshall's approach to obtaining market-level consumers' surplus was the following.[47]

Suppose there are n individuals, each of whom has a surplus of s_i and a utility of u_i, which depends on s_i. Denote society's ultimate goal by W for "social welfare." Marshall's approach was utilitarian in the sense that a Utilitarian would define social welfare as $W = u_1 + u_2 + \cdots + u_n$, and Marshall agreed, taking

$$W = u_1(s_1) + u_2(s_2) + \cdots + u_n(s_n) .$$

Next, Marshall assumed that $u_i(s_i) = s_i$ for every i. This meant that the "marginal utility of surplus," or what he called "the marginal utility of money," since surplus is measured in money, is a constant (equal to one) for each person and is the same for every person. Since the marginal W with respect to any u_i is also constant and equal to one for all i, the marginal W with respect to any s_i is also equal to one.[48]

With his assumption that $u_i(s_i) = s_i$ for every i, Marshall would get

$$W = s_1 + s_2 + \cdots + s_n .$$

Therefore, Marshall claimed that society's goal should be to maximize the sum of the various surplus measures (consumers' surplus, producers' surplus, and "economic rent") over all individuals with absolutely no regard to how the surplus is distributed. If one ignores producers' surplus and economic rent, then this criterion is the CWS.

Unfortunately for the CWS, even Marshall was aware that, strictly speaking, one of his main assumptions, namely the assumption $u_i(s_i) = s_i$ for every i, which gives rise to the marginal utility of money being constant and equal for everyone, is false. Marshall admitted that "money measures of . . . happiness" would not be equal to "the amount[] of happiness."[49] For example, he said, "[a] greater utility will be

---

[47] *See generally* MARSHALL, *supra* note 27.

[48] In symbols, applying the Chain Rule: $\frac{\partial W}{\partial s_i} = \frac{dW}{du_i} \cdot \frac{du_i}{ds_i} = 1 \cdot 1 = 1$ for all i.

[49] MARSHALL, *supra* note 27, at 131. Both Marshall and Pigou recognized that the utility gain resulting from additional income declines as income rises. B. DANIEL HAUSMAN, MICHAEL MCPHERSON & DEBRA SATZ, ECONOMIC ANALYSIS, MORAL PHILOSOPHY, AND

required to induce him to buy a thing if he is poor than if he is rich."[50] Put another way, people who lack resources benefit more from additional resources than those with abundant resources.

Since Marshall's time, his assumption that the marginal utility of money is constant and equal for everyone has been criticized unrelentingly and convincingly. To attack the idea that there is an equal marginal W of one dollar to anyone, Nobel Laureate Paul Samuelson reached back to the biblical parable of the Poor Man's Lamb.[51] The modern welfare economists Hammond and Fleurbaey note that advocates of the "adding up surplus" approaches implicitly attach "equal value to the extra dollar a rich man will spend on a slightly better bottle of wine and to the dollar a poor woman needs to spend on life-saving medicine for her child," adding that "their comparisons not only lack scientific content, but most people—especially non-economists—also find them totally unacceptable from an ethical point of view."[52] Blackorby and Donaldson[53] similarly write, concerning "the ethical judgment that 'a dollar is a dollar'—income-inequality is ignored," that "there is near unanimity about the undesirability of such ethics." Some antitrust economists have also recognized this problem with the Marshall-CWS approach.[54]

PUBLIC POLICY 114 (2017) ("Citing the diminishing marginal utility of income, they [Marshall and Pigou] maintained that, for example, an extra thousand dollars contributes less to the well-being of someone with an income of fifty thousand dollars than to the well-being of someone with an income of ten thousand dollars. Other things being equal, then, a more equal distribution of income increases total welfare."). Roy F. Harrod, *Scope and Method of Economics*, 48 ECON. J. 383, 395 (1938) ("Marshall says in the *Principles* that the marginal utility of two pence is greater in the case of a poorer man than in that of a richer. If such comparisons are allowed, recommendations for a more even distribution of income seem to follow logically.").

[50] MARSHALL, *supra* note 27, at 95.

[51] In Kotaro Suzumura & Paul Samuelson, *An Interview with Paul Samuelson: Welfare Economics, "Old" and "New," and Social Choice Theory*, 25 SOC. CHOICE & WELFARE 327, 336 (2005) (recounting and commenting on the prophet Nathan's parable told to King David in 2 Samuel 12:2–6: "There was a King who invited a poor [innocent] shepherd to dinner. They killed a lamb and made the meat for the dinner. The poor shepherd had only one lamb, and the King had a superfluously large number of lambs. In the course of the dinner, the King said: 'By the way, what we are eating is your lamb.' The fact that the story could just be told in that way means that every reader could understand that it was a terrible thing to do"). Actually, Samuelson somewhat exaggerated the story: the biblical text has the poor shepherd's lamb being served to an unnamed traveler, not to the lamb's owner. 2 *Samuel* 12:2–6.

[52] Marc Fleurbaey & Peter J. Hammond, *Interpersonally Comparable Utility, in* 2 HANDBOOK OF UTILITY THEORY 1179, 1187 (Salvador Barberà, Peter J. Hammond & Christian Seidl, eds., 2010).

[53] *See* Charles Blackorby & David Donaldson, *The Case Against the Use of the Sum of Compensating Variations in Cost-Benefit Analysis,* 23 CAN. J. ECON. 471 (1990).

[54] Joseph Farrell & Michael L. Katz, The Economics of Welfare Standards in Antitrust 9 (July 20, 2006) (unpublished manuscript), https://escholarship.org/uc/item/1tw2d426 [https://perma.cc/XMD7-RMJ8] ("It is, however, a widely held view that a dollar is worth

B. Implications for Antitrust

Because Marshall realized the drawbacks of the assumption of the constant and equal marginal utility of money, he made clear that it should not be employed when considering issues such as the transfer of income between distinct groups, issues that can be in play in antitrust cases.[55] Marshall explained that its applicability is only to markets with a broad cross-section of consumers from different income classes.[56] When, in contrast, transfers between different groups occur, the CWS's constant and equal marginal utility of money blinds antitrust authorities to any welfare effects of those transfers. The next two Sections give examples of these blind spots in the antitrust context.

C. Transfers of Rent Between Firm Stakeholders

An important example of this antitrust blind spot are mergers that facilitate private equity "downsize and distribute" strategies, in which short-run cash is extracted from the firm to increase executive and shareholder incomes. As described by Lazonick and Shin:

> Under the retain-and-reinvest regime, senior executives made corporate resource-allocation decisions that, by retaining people and profits within the company, permitted reinvestment in productive capabilities that could generate competitive (high-quality, low-cost) products. The social foundation of retain- and-reinvest was employment relations that offered decades-long job security, in-house promotion opportunities, rising real earnings, and health insurance coverage, with a defined benefit pension at the end of a long career. . . . In sharp contrast, under downsize and distribute, a company is prone to downsize its labor force and to distribute to shareholders, in the form of cash dividends and stock buybacks, corporate cash that it might previously have retained.[57]

---

more to society in the hands of a poor person than those of a rich one."). For citations to the literature in moral philosophy on this point, see WILL KYMLICKA, CONTEMPORARY POLITICAL PHILOSOPHY: AN INTRODUCTION 40–41 (2nd ed. 2002).

[55] *See* MARSHALL, *supra* note 27, at 130–31; *see also* Mark Glick & Darren Bush, Breaking up Consumer Welfare's Antitrust Policy Monopoly 15–20 (Feb. 1, 2023) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4344245 [https://perma.cc/X2EP-3976].

[56] MARSHALL, *supra* note 27, at 131 ("On the whole however it happens that by far the greater number of the events with which economics deals, affect in about equal proportions all the different classes of society; so that if the money measures of the happiness caused by two events are equal, there is not in general any very great difference between the amount of the happiness in the two cases.").

[57] WILLIAM LAZONICK & JANG-SUP SHIN, PREDATORY VALUE EXTRACTION: HOW THE LOOTING OF THE BUSINESS CORPORATION BECAME THE U.S. NORM AND HOW SUSTAINABLE PROSPERITY CAN BE RESTORED 2–3 (2020).

Such mergers entail transfers that reduce welfare, but transfers do not reduce welfare under the assumption of a constant and equal marginal utility of money. Moreover, there are no evident offsetting productivity growth benefits to these transfers. Lazonick and Shin have shown that the draining of cash by shareholders has resulted in a decline in investment, presumably because of the loss of personnel engaged in research and development.[58] The impact of this transfer of labor rents to shareholders can be seen in U.S. investment data. There has been a steady decline in the proportion of profits dedicated to investment since the 1990s, as Thomas Philippon describes:

> In recent years firms have been plowing back into investment only a bit more than 10 cents for each dollar of profit. . . . [W]e see that the growth rate of the capital stock of corporate businesses was 3.7 percent on average between 1962 and 2001, but only 1.9 percent on average between 2002 and 2012.[59]

Under the current Merger Guidelines,[60] a merger in which there is no price effect (or quality effect) in the output market, but which involved a transfer of income from workers to hedge fund managers and could be predicted to reduce future investment by the firm, would not be challenged. This is because the CWS would dictate that such transfers are not problematic and that internal processes in the firm are outside the purview of the CWS.

D. The Welfare Impact of Unemployment and Income Inequality

Transfers of labor rents that result in unemployment can have serious welfare consequences that are unaddressed because of the assumption of constant and equal marginal utility of money. Unemployment stands out as one of the most significant factors that negatively impacts self-reported subjective well-being. Numerous studies using individual data from many countries in many time periods have found that unemployment significantly lowers human happiness. As summarized by Peter Van der Meer:

> Unemployment has a severe effect on the subjective well-being of people. This has been shown over and over again. An obvious reason for this drop in well-being is of course the loss of income. But that is not the major explanation . . . . The psychic costs of unemployment are much bigger than the loss of income. But worse than that: unemployment has lasting,

---

[58] *Id.*

[59] THOMAS PHILIPPON, THE GREAT REVERSAL: HOW AMERICA GAVE UP ON FREE MARKETS 65 (2019).

[60] *See generally* U.S. DEP'T OF JUST. & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES (2010), https://www.justice.gov/atr/horizontal-merger-guidelines-08192010 [https://perma.cc/D7SJ-54CB].

scarring effects. That is, the long term unemployed remain unhappy even if they find a job again. They feel and stay unhappy.[61]

Finally, the cumulative effects of transfers between labor and wealthy shareholders result in greater income inequality and concomitant reductions in well-being. Richard Wilkinson and Kate Pickett document how high levels of income inequality undermine human well-being through numerous social mechanisms. Income inequality creates social barriers, undermines common understanding and discourse, undermines the sense of community, and creates status anxiety.[62] Communities and friends engender "trust" or "social capital" and make us feel "safe," which activates the parasympathetic nervous system that reduces the cortisol levels in the blood.[63] Reduced social connections lead to greater anxiety, greater insecurity, and increased feelings of shame (all of which are related to violence). Indeed, Wilkinson and Pickett find a strong statistical relationship between income inequality (across countries and U.S. states) and lower trust,[64] increased mental

---

[61] Peter Van der Meer, *Happiness, Unemployment, and Self-Esteem* (Univ. of Groningen, Working Paper No. 16016-HRM&OB, 2016), at 1 (citations omitted), https://pure.rug.nl/ws/portalfiles/portal/34998243/16016_HRMOB_def.pdf [https://perma. cc/Z3WK-DVFZ]; *see also, e.g.*, Rafael Di Tella, Robert J. MacCulloch & Andrew J. Oswald, *Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness,* 91 AM. ECON. REV. 335 (2001); Andrew E. Clark & Andrew J. Oswald, *Unhappiness and Unemployment*, 104 ECON. J. 648 (1994).

[62] *See* RICHARD WILKINSON & KATE PICKETT, THE SPIRIT LEVEL: WHY GREATER EQUALITY MAKES SOCIETIES STRONGER, 38–39 (2011); Shigehiro Oishi, Selin Kesebir & Ed Diener, *Income Inequality and Happiness*, 22 PSYCH. SCI. 1095 (2011) (demonstrating that U.S. happiness levels are negatively related to inequality and suggesting perceived unfairness and lack of trust as the mediating factors).

[63] There are other mechanisms by which inequality increases anxiety. For example, Dirk Krueger and Fabrizioi Perrio show that inequality increases debt levels. *See generally* Dirk Krueger & Fabrizio Perri, *Does Income Inequality Lead to Consumption Inequality? Evidence and Theory*, 73 REV. ECON. STUD. 163, 186–88 (2006).

[64] WILKINSON & PICKETT, *supra* note 62, at 52–53; *see also* Jan Delhey & Georgi Dragolov, *Why Inequality Makes Europeans Less Happy: The Role of Distrust, Status Anxiety, and Perceived Conflict*, 30 EUR. SOCIO. REV. 151, 153, 160–61 (2013) (finding that inequality erodes trust in developed countries, causing lower welfare).

illness,[65] greater illegal drug use,[66] lower life expectancy,[67] greater violence,[68] and lower social mobility.[69] Yet, supporters of the CWS paradoxically purport to place "consumer welfare" front and center in antitrust policy debates while ignoring the obvious welfare-reducing impact of dominant firm conduct on income inequality.[70]

IV. A THIRD LIMITATION OF THE CWS: IT IS BIASED IN FAVOR OF THE RICH

In Part III, we explained that the surplus approach does not *per se* distinguish between transfers from the poor to the rich and transfers in the other direction. However, all surplus approaches necessarily weigh the preferences of the rich more heavily than the poor because the rich have higher effective demand than the poor for normal goods; higher effective demand implies greater surplus and,

---

[65] *See* WILKINSON & PICKETT, *supra* note 62, at 67; *see also* Christine E. Eibner & William N. Evans, *The Income-Health Relationship and the Role of Relative Deprivation*, *in* SOCIAL INEQUALITY 545, 545 (Kathryn M. Neckerman ed., 2004) ("While there is a strong, positive relationship between individual income and individual health, there is less evidence of a relationship between aggregate income and aggregate health. Several recent papers argue that increases in individual income affect health and well-being not just through increases in absolute material standards but also through a relative deprivation effect."); Richard Layte, *The Association Between Income Inequality and Mental Health: Testing Status Anxiety, Social Capital, and Neo-Materialist Explanations*, 28 EUR. SOCIO. REV. 498 (exploring how mental health is worse in more unequal European societies).

[66] WILKINSON & PICKETT, *supra* note 62, at 71.

[67] *Id*. at 82–83.

[68] *Id*. at 134–35.

[69] *Id*. at 160; *see also* Heather Broushey & Christian E. Weller, *What the Numbers Tell Us, in* INEQUALITY MATTERS: THE GROWING ECONOMIC DIVIDE IN AMERICA AND ITS POISONOUS CONSEQUENCES 27, 34 (James Lardner & David A. Smith eds., 2005) ("The sons of fathers from the bottom three-quarters of the socioeconomic scale (defined by income, education, and occupation) were less likely to move up in the 1990s than in the 1960s. By 1998, only 10 percent of sons of fathers in the bottom quarter had moved into the top quarter; in 1973, by comparison, 23 percent of lower-class sons had moved up to the top. The evidence shows that there is today a smaller chance than in the past that someone from a low-income family will move up the income ladder."); Emily Beller & Michael Hout, *Intergenerational Social Mobility: The United States in Comparative Perspective*, 16 FUTURE CHILD. 19 (2006) (reviewing occupational, income, and wealth mobility and concluding "that slower economic growth since 1975 and the concentration of that growth among the wealthy have slowed the pace of U.S. social mobility"); Miles Corak, *Do Poor Children Become Poor Adults? Lessons from a Cross-Country Comparison of Generational Earnings Mobility*, 13 RSCH. ON ECON. INEQ. 143 (2006) (finding the U.S. has relatively low-income mobility).

[70] For an exception to this all-too-common phenomenon, see Hemphill & Rose, *supra* note 8, at 2091.

correspondingly, a larger change of surplus as a result of a policy change.[71] This was a central point in an early critique of law and economics by Baker in 1975:

> As a general matter, the rich are favored directly by [Posner's approach] . . . to the extent that the rich are more likely to be willing and able to buy a right for productive use. A person favored in a previous case is progressively more likely to be favored in the next case . . . .[72]

Many others have made this point. In 1980, Bebchuk wrote about "the bias of the [wealth maximization criterion] against the poor."[73] In 2008, Daniel Hausman and Michael McPherson cited Baker's paper: "Because preferences in cost-benefit analysis are weighted with dollars, and the poor have fewer of these, their preferences count for less (Baker 1975)."[74] In 2012, Hackinen confirmed, in a dynamic mathematical model, Baker's assertion that, on average, the poor become progressively worse off with repeated applications of a surplus criterion.[75] Liscow, in 2018, defines "neutral," "rich-biased," and "poor-biased" policies, then shows that "efficiency analysis places a heavy thumb on the scales in favor of rich-biased policies."[76] Accordingly, the CWS is not an unbiased standard and does not purge value judgments from antitrust policy, as its supporters claim.

V. A FOURTH LIMITATION OF THE CWS: IT EMBRACES AN ETHICALLY WEAK CASE FOR COMPETITION

Vilfredo Pareto, in his *Manual of Political Economy*, first published in 1906, abandoned the "sum of surplus" approach to economic policy assessments and

---

[71] C. Edwin Baker, *The Ideology of the Economic Analysis of Law*, 5 PHIL. & PUB. AFF. 17, 3–48 (1975) (noting that as income rises, the WATP for "inferior goods" such as "cat food bought for human consumption" would fall). Also, the income elasticity of willingness and ability to pay is not precisely the same thing as the income elasticity of demand. *See generally* Nicholas E. Flores & Richard T. Carson, *The Relationship Between the Income Elasticities of Demand and Willingness to Pay*, 33 J. ENV'T ECON. & MGMT. 287 (1997); Richard T. Carson & W. Michael Hanemann, *Contingent Valuation, in* 2 HANDBOOK ENV'T ECON.: VALUING ENV'T CHANGES 909 (Karl-Göran Mäler & Jeffrey R. Vincent eds., 2005).

[72] Baker, *supra* note 71, at 9.

[73] Lucian A. Bebchuk, *The Pursuit of a Bigger Pie: Can Everyone Expect a Bigger Slice?*, 8 HOFSTRA L. REV. 671, 671–72 (1980).

[74] Daniel M. Hausman & Michael S. McPherson, *The Philosophical Foundations of Mainstream Normative Economics*, in THE PHILOSOPHY OF ECONOMICS: AN ANTHOLOGY 226, 247 (Daniel M. Hausman ed., 2007).

[75] *See* Brad Hackinen, Does Repeated Application of the Kaldor-Hicks Criterion Generate Pareto Improvements? (2012) (B.A. Honors thesis, University of Victoria), https://www.uvic.ca/socialsciences/economics/assets/docs/honours/Hackinen.pdf [https://perma.cc/H5DE-RE2G].

[76] Zachary Liscow, *Is Efficiency Biased?*, 85 U. CHI. L. REV. 1649, 1667–72 (2018).

replaced it with the criterion that bears his name, "Pareto Improvements."[77] Pareto Improvements are defined as changes that benefit at least one agent while none are harmed. Pareto defined the word "efficiency" in the context of economic policy as a situation where no further Pareto Improvements are possible. Assessing policies using the concepts of Pareto Improvements and Pareto Efficiency does not require one to add up different people's utilities or surpluses, nor does it require there to be any particular relationship between subjective utility and money. This latter feature was an important reason why Pareto's criterion was widely adopted.

Most economists follow the leading first-year Ph.D.-level microeconomics textbooks in adopting Pareto's definition of efficiency rather than defining efficiency using the notion of surplus. (Those textbooks sometimes redundantly introduce the terms "Pareto Efficiency" and "Pareto Optimality" as synonyms for "efficiency.")[78] In the well-known texts by Varian[79] and by Jehle and Reny,[80] the word "efficiency" is exclusively used as a synonym for Pareto Efficiency. In the leading text by Mas-Colell, Whinston, and Green, "efficient *production*" means "it is impossible to produce more of one output and no less than any output while simultaneously using no more of any input"[81]; but every other use of the word "efficiency" in that very long book means Pareto Efficiency.[82]

The major characteristic of Pareto Efficiency is that it only endorses policy changes that have no losers. An endorsed policy must have unanimous consent. This severely limits the number of real-world policies it will endorse. It also makes Pareto's approach inapplicable to antitrust enforcement because Article III Section

---

[77] *See generally* VILFREDO PARETO, MANUAL OF POLITICAL ECONOMY (2014); *see also* Mark Glick & Gabriel Lozada, *The Erroneous Foundations of Law & Economics* (Inst. for New Econ. Thinking, Working Paper No. 149, 2021), https://www.ineteconomics.org/uplo ads/papers/WP_149-Glick-and-Lozada.pdf [https://perma.cc/PL6L-N349].

[78] Even more confusing is economists' penchant to use "Optimality" as a synonym for "Pareto Optimality" even though this clashes with economists' use of the word "optimal" in many other contexts.

[79] Varian neither defines nor uses the single word "efficiency" in his book. It appears in some of his headings, such as "13.10 Efficiency and Welfare," but the accompanying text always puts the word "Pareto" before "efficiency." *See, e.g.*, HAL R. VARIAN, MICROECONOMIC ANALYSIS 226–27 (3d ed. 1992).

[80] *See, e.g.*, GEOFFREY A. JEHLE & PHILIP J. RENY, ADVANCED MICROECONOMIC THEORY 186 (3d ed. 2011) ("Now it would seem that to obtain an *efficient* outcome, the total surplus – the sum of consumer and producer surplus—must be maximized. Otherwise, *both* the producer and the consumer *could be made better off* by redistributing resources to increase the total surplus, and then dividing the larger surplus among them so that each obtains strictly more surplus than before. But we must take care.") (emphasis added).

[81] ANDREU MAS-COLELL, MICHAEL D. WHINSTON & JERRY R. GREEN, MICROECONOMIC THEORY 150 (1995).

[82] *Id.* at 307–08 ("An economic outcome is said to be Pareto optimal if it is impossible to make some individuals better off without making some other individuals worse off. This concept is a formalization of the idea that there is no waste in society, and it conveniently separates the issue of economic efficiency from more controversial (and political) questions regarding the ideal *distribution* of well-being across individuals.").

2 of the U.S. Constitution limits standing in federal court to "cases" and "controversies" with potential winners and losers. A further limitation is that Pareto Efficiency provides no way to compare competing Pareto efficient situations.

Recognition of the limited usefulness of Pareto efficiency, particularly by Robbins,[83] eventually led Nicholas Kaldor in 1939 to suggest an approach, which he thought overcame the limitations of the Pareto Principle by not requiring unanimous support for a policy proposal.[84] Kaldor suggested that a policy should be adopted if the policy's beneficiaries could, in principle, compensate the people who lose because of the policy and still be better off than they were before. But the compensation need not be made. This is referred to as the "Potential Pareto" criterion or as "Cost-Benefit" analysis.

To illustrate the Potential Pareto Principle in the context of the CWS, consider Judge Bork's illustration in Chapter 5 of *The Antitrust Paradox*[85] (adopted from Williamson),[86] reproduced here with slightly different notation as Figure 2, with a Marshallian demand curve given by D_m.

---

[83] *See* Lionel Robbins, *Interpersonal Comparisons of Utility: A Comment*, 48 ECON. J. 635 (1938).

[84] Nicholas Kaldor, *Welfare Propositions of Economics and Interpersonal Comparisons of Utility*, 49 ECON. J. 549, 551 (1939).

[85] *See* BORK, *supra* note 16.

[86] *See* Oliver E. Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs*, 58 AM. ECON. REV. 18, 21 (1968).

Figure 2: Judge Bork's welfare tradeoffs from mergers, with Marshallian demand curve D_m. Moving from p_1 to p_2 removes $lagk$ of previously-existing consumer surplus, of which $lahk$ becomes firm profit and agh is (Marshallian) deadweight loss. The merger generates $hijk$ in cost savings. Bork taught that the merger should be approved if and only if its cost savings $hijk$ exceeded its deadweight losses agh.
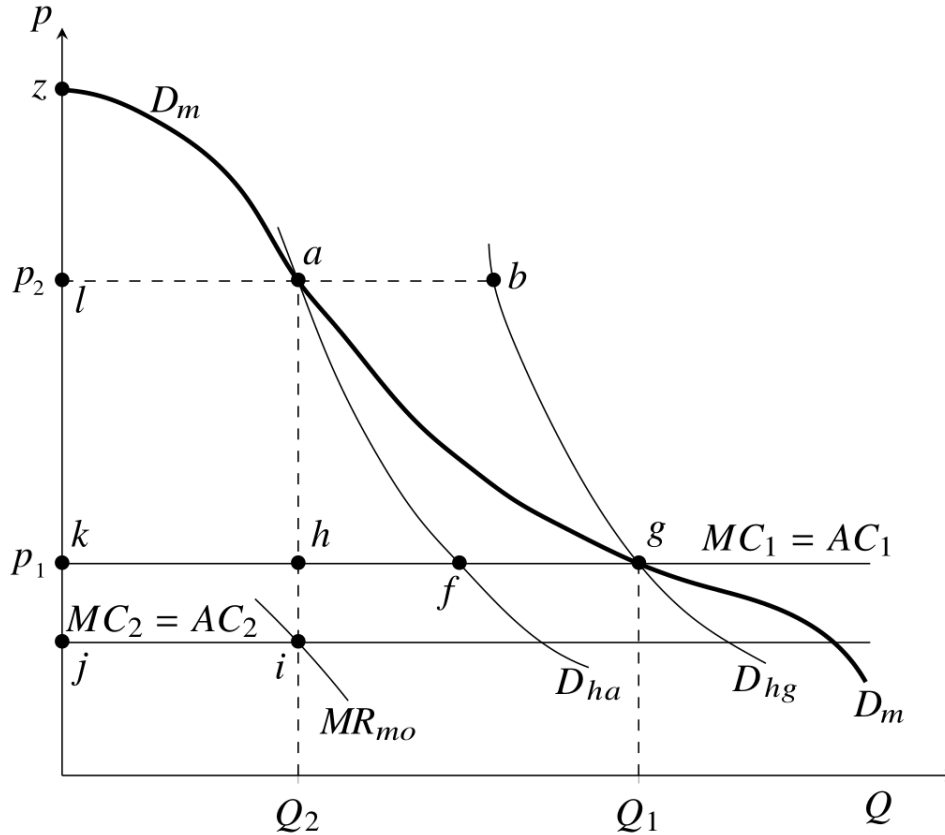
In this figure, fixed costs are assumed to be zero, and the production process is assumed to have constant returns to scale. Therefore, the perfectly competitive supply curve would be along the pre-merger marginal cost curve MC_1. It intersects the Marshallian demand curve at g, establishing the competitive equilibrium price p_1 and quantity Q_1. The competitive marginal revenue curve, not labeled, would be a horizontal line at p_1. For a monopolist, the marginal revenue curve would be downward-sloping because the monopolist realizes that increasing Q can only be sustained by decreasing price. The monopolist's marginal revenue curve is labeled MR_{mo} in Figure 2. It is assumed that the merger would lead to cost savings, shown

by a shift down in the marginal cost curve to MC_2.[87] The intersection of the monopolist's marginal revenue curve with marginal cost MC_2 determines the monopolist's profit-maximizing level of output Q_2, which is smaller than the competitive level Q_1. With output at the monopoly level Q_2, the market-clearing price rises from the competitive level p_1 to the monopoly level p_2.

Williamson and Bork analyze the welfare implications of monopolizing this market by first observing that consumer surplus shrinks from the triangle *zagk* to triangle *zal*, a loss of *lagk*. However, the rectangular portion *lahk* of this loss is a mere redistribution, or a "transfer," from consumers to the monopolist, because the consumers remaining in the market pay more, and this increases the profits of the monopolist by the rectangle *lahk* despite the reduction in quantity sold. Williamson and Bork assign no importance to this transfer. Indeed, in *The Antitrust Paradox*, Judge Bork identifies the owners of the monopoly as consumers: "Those who continue to buy after the monopoly is formed pay more for the same output, and that shifts income from them to the monopoly and its owners, who are also consumers."[88] Bork does assign importance to the rest of *lagk*, namely triangle *agh*. It is called

---

[87] The Chicago School assumed that mergers led to significant so-called "efficiencies" of this type. Most of the many studies of merger "efficiencies" find few or no such benefits, however. JOHN KWOKA, MERGERS, MERGER CONTROL, AND REMEDIES: A RETROSPECTIVE ANALYSIS OF U.S. POLICY 149 (2014) ("Overall, these data corroborate the findings of the single-merger studies regarding product prices . . . . [S]uch a decrease is found with respect to price but also with respect to quality, R&D, and more often than not, efficiency."); *see also* Lande & Vaheesan, *supra* note 41, at 84–86.

[88] BORK, *supra* note 16, at 110. Robert Lande is the most outspoken critic of this interpretation. According to Lande, Congress wanted to establish a property right in the competitive price. Thus, he distinguishes between consumers who purchase goods and services and the firms with market power that produce and sell them. His argument is simply that Congress was concerned with transfers of income from one group to the other. *See* Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged,* 34 HASTINGS L.J. 65 (1982). In particular, Congress expressed a concern about the transfers of income and income inequality. Senator Sherman famously stated, "[t]he popular mind is agitated with problems that may disturb social order, and among them all none is more threatening *than the inequality of condition, of wealth, and opportunity* that has grown within a single generation out of the concentration of capital into vast combinations to control production and trade and to break down competition." HANS THORELLI, THE FEDERAL ANTITRUST POLICY 180 (1955) (emphasis added) (quoting Senator Sherman). Others have claimed that the income transfer is a cost and should be added to deadweight loss because firms will spend money to obtain monopoly. Judge Bork rejects this view in the *Antitrust Paradox* for the unusual reason that reclassifying the income transfer doesn't influence antitrust rules. *See* BORK, *supra* note 16. The real reason why this argument is inconsistent with economic theory is because consumers are sovereign and one does not look behind preferences to find a purpose for an expenditure and decide based on the purpose that was discovered whether or not to classify the expenditure as a social cost. Nonetheless several antitrust commentators have argued this way. *See, e.g.*, Richard A. Posner, *The Social Costs of Monopoly and Regulation*, 83 J. POL. ECON. 807 (1975); Herbert Hovenkamp, *Antitrust Policy and the Social Cost of Monopoly*, 78 IOWA L. REV. 371 (1993); William H. Page, *Optimal Antitrust Penalties and Competitors' Injury*, 88 MICH. L. REV. 2151 (1990).

"deadweight loss" because consumers are willing and able to pay a price (shown by the ag portion of demand curve D_m) higher than the previous marginal cost hg of producing these units of the product, yet these units of the product are not produced. The deadweight loss is a measure, in dollars, of the allocative inefficiency caused by the decrease in output caused by monopolization of this market. In contrast, Williamson and Bork count the monopolization's cost savings for producing the new quantity Q_2, namely $hijk$ (which accrues to the monopolist, as extra profit), as a social benefit.[89] The rest of the cost savings, the area under hg, is, according to Williamson and Bork, welfare-neutral, because it represents a simultaneous savings in costs and loss of gross consumer surplus generated by the units of output between Q_1 and Q_2.[90] To summarize, according to Williamson and Bork, the merger should be approved if and only if its net cost savings $hijk$ exceed its deadweight losses agh. Therefore, this trades off $hijk$, which is a gain to the monopolist, with agh, which is a loss to consumers.

It turns out that according to modern economic theory, this analysis is incorrect, but we postpone explaining the defect until Part VI.C. For now, the simple points we want to make are that: (1) an antitrust policy that eliminates the monopoly and restores competition is not a Pareto Improvement because the monopolist is a loser, losing the profits $lahk$ and $hijk$; (2) eliminating monopoly would, however, be Potential Pareto efficient when $agh > hijk$, because moving to competition creates sufficient growth in consumer surplus, $lagk$, to compensate the monopolist and still have consumer surplus left over (the amount of the deadweight loss minus the monopoly cost savings, $agh - hijk$). However, the fact that monopoly is Potentially Pareto inefficient alone is not a persuasive basis for antitrust enforcement, as we explain next.

There are many reasons to oppose monopoly. One reason that the Potential Pareto argument against monopoly lacks force is that, unlike the Pareto Principle, Kaldor's Potential Pareto Principle has an indefensible ethical foundation. To see why this is the case, suppose "A" is a policy that hurts some people, helps others, and according to some metric, the winners could compensate the losers and still be better off—but the winners do not compensate the losers.

Suppose "B" starts with "A" but then taxes the winners and actually does compensate the losers so that everyone is actually better off than they were at the beginning. "A" and "B" are ethically distinct. It is unavailing to contend that A is a good policy because B is ethically appealing. As Jules Coleman (a moral philosopher) trenchantly points out, there is absolutely no reason to think that people would consent to a policy "in virtue of its potential to be something other than it is."[91] Welfare economists are in agreement with Coleman; for example, Chipman and Moore write that to adopt policies that pass the Potential Pareto Principle, but

---

[89] Oliver Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs*, 58 AMER. ECON. REV. 18 (1968); *see generally* BORK, *supra* note 16.

[90] Williamson, *supra* note 89, at 58; *see generally* BORK, *supra* note 16.

[91] Coleman, *supra* note 19, at 546–47 n.62.

which are not Pareto Improvements, "is to wash one's hands of the responsibility for one's own actions."[92]

VI. A FIFTH LIMITATION OF THE CWS: EXAGGERATING "EFFICIENCIES" BY IGNORING THE INPUT MARKET

Next, reconsider the cost reduction from the merger, *hijk*, in Figure 2. Although the CWS leads antitrust economists to treat this cost reduction as a benefit, the cost reduction must arise from a fall in the amount of money paid to input suppliers, and the effect of this on those suppliers ought to be taken into account. The cost reductions are a result of a decrease in input demand, manifested, for example, by layoffs or wage reductions. These, in turn, decrease the surplus earned by the input suppliers, which is called economic rent. The CWS grossly overstates so-called "efficiencies" because the CWS simply ignores the deleterious effects of the fall in economic rent.[93] Hemphill and Rose have recently pointed out that input markets should not be ignored in merger analysis, pointing out that "claimed 'efficiencies' premised on a reduction in buy-side competition [such as monopsony or increased power in bilateral bargaining] are not efficiencies at all."[94] However, Hemphill and Rose do not go far enough: an "efficiency" which, for *any* reason, even in a perfectly competitive input market, reduces economic rent in that market, overstates "efficiency" because it does not account for the reduction in the input market's surplus. This is true even if the cost reduction is not caused by an increase in monopsony power or bargaining leverage.

Parts VI.A and VI.B make this argument in more detail, showing that the cost savings *hijk* always occur in tandem with a loss of economic rent to the input supplier, which is a social cost.

In Part VI.C, we then challenge the notion that transfers are welfare-neutral on the basis of the arguments made in Part III. If we lift the assumption that the marginal utility of money is equal and constant for all, then transfers could decrease total welfare, and would do so if they were transfers from the poor to the wealthy. If it is workers who supply the input adversely affected by the merger, and if workers are less wealthy than firm owners, then these considerations imply that each dollar of lost rent offsets, from a social point of view, more than one dollar of cost savings. In addition, these considerations also imply that if consumers are, on average, less wealthy than firm owners, then the transfer of *lahk* from consumers to firm owners would come with a social cost instead of being welfare-neutral.

---

[92] Chipman & Moore, *supra* note 10, at 580.

[93] U.S. DEP'T OF JUST. & FED. TRADE COMM'N, *supra* note 60, at § 10; Hafiz, *supra* note 4, at 42 ("In the merger context, until very recently, enforcement agencies almost exclusively regarded merger's workforce reductions and other adverse labor market effects on workers as procompetitive efficiencies, in part due to the rise of the Chicago School as the dominant intellectual force behind modern antitrust."); *see also* Hemphill & Rose, *supra* note 8, at 2091 (arguing that lower wages resulting from a merger that increased firm bargaining power is not an efficiency).

[94] Hemphill & Rose, *supra* note 8, at 2078.

A. Cost Reductions Are Not Necessarily Efficiencies

Judge Bork, and most antitrust attorneys and antitrust economists, refer to the cost reductions of Figure 2, the rectangle $hijk$, as "efficiencies." As we noted above, in economics, "efficiency" means either Pareto Efficiency—as in first-year Ph.D. microeconomics textbooks, as discussed near the beginning of Part V—or it means Potential Pareto Efficiency. Nowhere in modern economics does "efficiency" mean "cost reduction" *by itself.* It is true that in a world of perfect competition, market clearing, only symmetric information, and no externalities, firms' minimizing cost is always a good thing for society because, in such a setting, input prices capture all the true net social costs of input use. That does not imply that in the real world, minimizing cost is always a good thing for society.[95] In the real world, cost reductions need to be investigated on a case-by-case basis in order to determine whether they increase human welfare or not. In antitrust, this has been overlooked because the economic definition of efficiency has been replaced by a businessperson's definition of efficiency. *Thus the economist sheds objectivity and becomes an advocate for the firm:* a deeply harmful development arising from imprecise use of language.

To see an example in antitrust of this "businessperson's definition of efficiency," one need look no further than the 2010 Horizontal Merger Guidelines. According to those guidelines, a merger where cost savings offset any price increase will result in the merger's approval. No inquiry is made concerning where the cost savings come from nor their corresponding impact on welfare:

> The Agencies will not challenge a merger if cognizable efficiencies are of a character and magnitude such that the merger is not likely to be anticompetitive in any relevant market. To make the requisite determination, the Agencies consider whether cognizable efficiencies likely would be sufficient to reverse the merger's potential to harm customers in the relevant market, e.g., by preventing price increases in that market.[96]

The next Section explicitly brings the input market into the analysis.

---

[95] Does this mean Luddites might be right? Luddites were absolutely right that adoption of a new technology which would impoverish them (because of unemployment, often long-term) was not a Pareto-improving move. In light of the criticisms we made of the "Potential Pareto" approach in Part V, a case that nevertheless Luddite behavior must *always* be bad—Luddite behavior alone, not coupled with compensation schemes that did not and do not and probably will not exist in reality—is impossible to make.

[96] U.S. Dep't of Just. & Fed. Trade Comm'n, *supra* note 60.

B. The CWS Overstates the Impact of Cost Reductions on Total Surplus by Ignoring the Loss of Rent in the Input Market

Suppose that the cost reduction represented by Figure 2's rectangle $hijk$ is the result of a decrease in the use of labor. This is represented in Figure 3 as a fall in the market demand for labor from D_{i1} to D_{i2}. For simplicity, assume a perfectly competitive labor market. Then equilibrium quantity of labor decreases from I_1 to I_2, and this is accompanied by a reduction in the price, which clears the input market from p_{i1} to p_{i2}. The resulting loss in the social surplus accruing to the input supplier, that is, a loss in economic rent, is $mnwt$, and it should be counted as an additional social cost to the merger. Thus, Williamson's correct tradeoff is not between social cost agh and social benefit $hijk$, but between social costs agh plus $mnwt$, and social benefit $hijk$. Fewer proposed mergers will meet this standard than would meet Williamson's standard. The current approach of simply ignoring the loss of economic rent stacks the decks in favor of mergers and should no longer be acceptable.

Figure 3. The Input Market
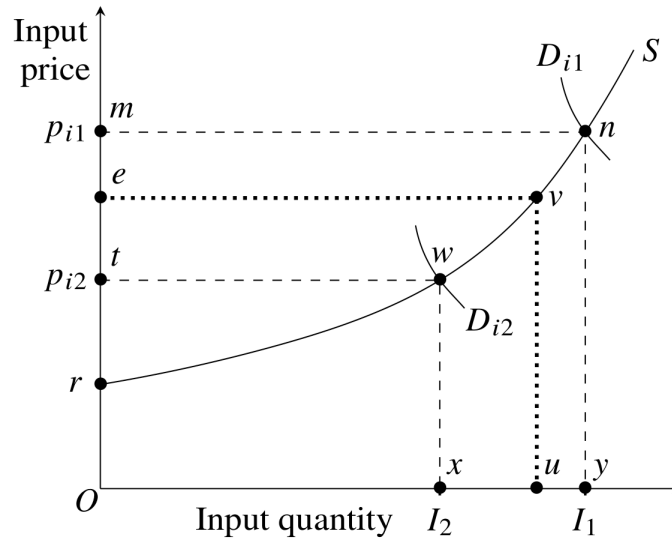
Figure 3 can be used to compare the size of the new social cost $mnwt$ to Figure 2's cost savings $hijk$. The firm's expenditure on this input falls from the large rectangle $mnyO$ to the smaller rectangle $twxO$, a reduction of the area $mnyxwt$, which must equal the cost reduction in the output market, rectangle $hijk$ plus rectangle gQ_1Q_2h, assuming, as we will, that this is the only input affected by the policy. There is no unique, correct way of illustrating the division of $mnyxwt$ into its two parts, $hijk$ and gQ_1Q_2h. One correct way flows from the fact that there must exist some point v on the input supply curve between n and w which makes the size of $mnyuve$ equal to the welfare-neutral part gQ_1Q_2h and therefore also makes the

size of $evuxwt$ equal to the socially-beneficial cost reduction $hijk$. Then the correct tradeoff "$agh + mnwt$, versus $hijk$" can also be expressed by replacing Figure 2's $hijk$ with Figure's 3 $evuxwt$. Then within Figure 3, one can net out the area of overlap between $mnwt$ and $evuxwt$, resulting in another expression of the correct tradeoff: it is between costs agh and $mnve$, and benefit $vuxw$.

If, contrary to our assumption, the firm has market power in the input market, there is less economic rent, both before and after a merger, than if the firm has no market power in the input market. The merger still causes a loss in economic rent. The size of the loss in rent will depend on the details of the particular market imperfection in the input market.

C. The Surplus Approach Falsely Assumes that All Transfers of Surplus Are Welfare-Neutral

In Part III, we explained that the surplus approach adopts the contested assumption that a dollar has an equal impact on welfare for everyone, whether it is received by a billionaire or by a minimum-wage worker or poor consumer. That Part explained why this assumption should be rejected. Absent this assumption, transfers of surplus from poor workers or consumers to wealthy firm owners would reduce welfare instead of being welfare-neutral.

There is a counterargument: workers already know how very valuable their wages are and how devastating the impact would be if they were to lose their jobs, particularly in a period of high involuntary unemployment. Therefore, that value is reflected in their labor supply curve, and hence that value is already fully reflected in the (large) area of rent $mnwt$ that they lose when employment falls.

This counterargument misunderstands a central point made in Part III. Figure 3 reflects the *private* value u_i that person i puts on money or surplus s_i. Part III is not discussing the private value that person i puts on his receipt of money, but rather the value that *society* puts on person i's receipt of money. Part III's point is that *social* welfare W should rise more when a poor person receives one more dollar than when a rich person receives one more dollar.

Because of Part IV's argument, the *private* cost of a devastating period of unemployment to the unemployed person might be quite low, since the unemployed person is poor and would not be "willing and able to pay" much to avoid unemployment (and would likely require a very modest compensation to be "willing to accept" being unemployed). Even an employed person, if working at minimum wage, will not accrue much economic rent, even if they subjectively value their job very much. But society does not care about private values; it cares about social value—W. Society can put as large a value as it wishes on a poor person's receipt of one more dollar. Social value is not fully reflected in Figure 3; only private value is. The social loss when employment falls from I_1 to I_2 and economic rent $mnwt$ is lost by the workers can certainly be more than $mnwt$. Indeed, the social gain when $hijk$ and $lahk$ are gained by the firm could certainly be less than $hijk$ and $lahk$.

Quantifying the *social* welfare impact of the transfer of labor rents can be challenging. They should include the strong negative externalities of long-term

unemployment on the workers' families and the communities in which they live, as laid out in Part III.D. However, modern research is making progress in quantifying the impact of unemployment, as well as comparing it to the impact of higher prices.[97] Moreover, once these welfare effects are recognized, the antitrust agencies can demand mitigation strategies or other conditional relief.

To summarize: the standard businessperson's definition of "efficiencies" assumes that the social value of the loss of *mnwt* is zero. The surplus approach takes the social value of the loss of *mnwt* to be *mnwt*. A modern welfare economics approach (as discussed in Part VIII) takes the social value of the loss of *mnwt* to be not necessarily equal to *mnwt*, and welfare economists generally treat that loss as larger (more negative) than *mnwt*.

VII. DEVELOPMENTS IN WELFARE ECONOMICS HAVE REVEALED FURTHER INCONSISTENCIES IN THE CWS APPROACH

A. Hicks's Revival of the Surplus Approach

As explained at the beginning of Part V, in the early twentieth century, Marshall's ideas were rejected partly because they relied on utility being cardinally measurable. The notion of $W = u_1 + u_2 + \cdots + u_n$ was abandoned. Social welfare came to be identified only with Pareto Optimality.[98]

In 1939, John Hicks rehabilitated the surplus approach and established it on an ordinal basis.[99] To do so, he rejected Marshall's "cardinal utility" notion that $u_i(s_i) = s_i$, and he rejected the Utilitarian framework $W = u_1 + u_2 + \cdots + u_n$. A very concise modern interpretation of what Hicks did is the following. Hicks replaced the Utilitarian framework with

$$W = value_1 + value_2 + \cdots + value_n$$

where "$value_i$" means the value that person i puts on the goods which that person consumes. Next, Hicks posited that the value of a commodity was the consumer's willingness to accept ("WTA") compensation for loss of that commodity: in symbols, $value_i = WTA_i$. Thus, Hicks got

$$W = WTA_1 + WTA_2 + \cdots + WTA_n.$$

Then, Hicks asserted that

---

[97] *See* Bruno S. Frey & Alois Stutzer, *What Can Economists Learn from Happiness Research?*, 40 J. ECON. LITERATURE 402, 419–22 (2002).

[98] Gregory J. Werden, *Antitrust's Rule of Reason: Only Competition Matters*, 79 ANTITRUST L.J. 713, 714 (2014) ("To formalize such ideas, economists struggled in vain to sum utilities of all individuals in the economy [without cardinal utility]. Economists then turned to the concept of Pareto optimality.").

[99] *See generally* J.R. Hicks, *The Foundations of Welfare Economics*, 49 ECON. J. 696 (1939).

2023]   ECONOMISTS SHOULD SUPPORT POPULIST ANTITRUST GOALS   797

$$WTA_i \approx s_i,$$

so he finally arrived at

$$W \approx s_1 + s_2 + \cdots + s_n,$$

which Hicks saw as a "rehabilitation" of Marshall's approach because the only difference between it and Marshall's formula is that Marshall used an equals sign, and Hicks said it should technically be an approximately equals sign.[100] Usually, Hicks treated the approximately equals sign as an equals sign. The CWS, and all modern "surplus" approaches, do the same thing, taking $value_i = s_i$, so they have in the end $W = s_1 + s_2 + \cdots + s_n$.

As just demonstrated, in the CWS and other modern "surplus" frameworks, $W = value_1 + value_2 + \cdots + value_n$ and $value_i = s_i$. For a single individual, the marginal value of a change in that individual's surplus was the derivative of $value_i$ with respect to s_i, which is one, a constant. Also, the marginal social welfare with respect to individual i's value was the derivative of W with respect to $value_i$, which is again one for all individuals. Thus, the marginal social welfare with respect to a change in anyone's surplus is one times one,[101] namely one, which is constant and equal for all individuals. Many modern economists, including Hicks, would not want to express this using Marshall's phrasing that "the marginal utility of money is constant and equal for all individuals" because that requires cardinal utility. However, for our purposes, the end result of the CWS approach is the same as the end result of Marshall's approach: moving one dollar of surplus from one person to another does not change W, and the change in W when a person gets one dollar more of surplus is opposite in sign but precisely equal in magnitude to the change in W when that person loses one dollar of surplus.

Hicks's first assumption, asserting that social welfare $W = value_1 + value_2 + \cdots + value_n$, cannot be said to be either "true" or "false," because it is a value judgment. This assumption is, however, a value judgment that is extremely difficult to defend. As demonstrated above, with Hicks's other assumptions, this first assumption leads to $W \approx s_1 + s_2 + \cdots + s_n$, which is the same conception of what W ought to be that we explained in Part III.A was strongly criticized by Hammond

---

[100] *Id.* at 710 n.1 ("This use of Consumers' Surplus is not open to any of the objections which have been brought against Marshall's concept; it does not involve either interpersonal comparisons or the measurement of utility. Consumers' surplus is the measure of the compensation which consumers would need in order to maintain them at the same level of satisfaction as before, after the supply of the commodity had been withdrawn. It is, however, not exactly equal to the area under the ordinary demand curve (see my *Value and Capital*, Appendix to Chapter II). This inequality (usually only a slight inequality) was responsible for the difficulties about the aggregation of consumers' surpluses which troubled Professor Pigou.").

[101] In symbols: $\frac{\partial W}{\partial s_i} = \frac{\partial W}{\partial value_i} \cdot \frac{d\, value_i}{d s_i} = 1 \cdot 1 = 1$.

and Fleurbaey, by Samuelson, and by Blackorby and Donaldson. All ethical traditions we are aware of teach that justice involves not only the sum of values, but also how they are distributed. Indeed, most litigation, and most political controversies, involve issues of distribution.

B. *Compensating Variation, Equivalent Variation, and the Binary Nature of Value*

The CWS assumption—that "economic value" is correctly measured by surplus has been out of date since 1941. Already in 1939, Hicks admitted that value (*WTA*) was only approximately equal to surplus,[102] but his understanding of the issue was not yet fully developed. In 1941, Henderson clarified much more about why Marshall's surplus measurement of the value which a single consumer put on, for example, the $Q_1 - Q_2$ extra apples purchased when price falls from p_2 to p_1 in Figure 2 was incorrect (interpret that figure as pertaining to one consumer for the purposes of this discussion).[103] If faced with a perfectly price-discriminating seller, the consumer's willingness to pay actually would not be the area under to the left of his Marshallian demand curve $lagk$, because each time they purchased incremental units as the price fell, this would make their income fall, and that would cause the demand curve to *shift*, not to remain at D_m. If the good is normal, the fall in income causes the demand curve to shift *down* as price falls from p_2. As price goes from p_2 down to p_1, the Marshallian demand curve would keep shifting down, and the resulting price/quantity combinations would eventually trace out what we now call the "Hicksian" demand curve, Figure 2's D_{ha}, which has the property that utility is constant at point a. Similarly, if, starting at the low price of p_1, the consumer's utility had to be kept constant as the price incrementally rose to p_2, the consumer would get incremental compensatory payments, which (with a normal good) would shift the demand curve up. In that price-increase case, the resulting price/quantity combinations would eventually trace out the "Hicksian" demand curve D_{hg}, which has the property that utility is constant at point g.

Consider the case of a price decrease. Henderson called the correct valuation measure, the willingness and ability to pay for the price decrease if it did occur, "compensating variation" ("CV"). It is measured assuming the policy change (the price decrease) has occurred, and asking how much money the consumer would be willing to give up in return. In other words: the loss of how much money would bring utility back to its original level, given that the new, lower price prevails? The Hicksian demand curve tracing the original utility level is D_{ha}, so CV is the area to the left of D_{ha}, which is $lafk$.

The most important development came in 1942, when Hicks realized that the consumer's "willingness to accept money" in lieu of a price decrease would not be the compensating variation "willingness to pay" for the price decrease. That is because as the consumer is accepting money in lieu of incremental price decreases,

---

[102] *See generally* Hicks, *supra* note 99.
[103] *See generally* A. Henderson, *Consumer's Surplus and the Compensating Variation*, 8 REV. ECON. STUD. 117 (1941).

his income would rise, causing their demand curve to shift in the opposite direction than in Henderson's example[104]—that is, in the case of a normal good, it would cause his demand curve to *rise*. Hicks called this measure of value, the willingness to accept compensation in lieu of a price decrease, "equivalent variation" ("EV"). It is measured assuming the policy change (price decrease) has *not* occurred, and asking how much money the consumer would have to be paid in return. In other words: a gain of how much money would, at the unchanged, original p_1 level, bring utility up to what utility would be if the lower price prevailed? The Hicksian demand curve tracing the utility level that would have prevailed with the lower price is D_{hg}, so EV is the area to the left of D_{hg}, which is $lbgk$.

The conclusion that $CV = lafk$ and $EV = lbgk$ agree with Varian[105] and with Mas-Colell, Whinston, and Green.[106] In Figure 1 of Willig's famous 1976 paper, which we will discuss more below,[107] CV and EV are switched—that is, $CV = lbgk$ and $EV = lafk$—because Willig studied a price increase instead of a price decrease.[108] CV and EV switch because, for a price increase from p_1 to p_2, CV uses the new price, p_2, and the original utility level, which is along D_{hg} because it contains the original point g; and EV uses the original price, p_1, and the new utility level, which is along D_{ha} because it contains the new point a.[109]

After the publication of Hicks's 1942 paper, it was no longer possible for economists to think of economic "value" as having a singular nature. Economic value is binary: CV and EV. Marshall's consumer surplus, which has a singular nature, cannot, therefore, be a correct measure of value. Of course, if changing income does not shift the Marshallian demand curve—if the "income effect" is precisely zero—then Marshall's surplus, EV, and CV are identical.[110]

---

[104] *See generally* J. R. Hicks, *Consumers' Surplus and Index-Numbers*, 9 REV. ECON. STUD. 126 (1942) [hereinafter Hicks, *Consumers' Surplus*].

[105] VARIAN, *supra* note 79, at 168.

[106] MAS-COLELL ET AL., *supra* note 82, at 83.

[107] Robert D. Willig, *Consumer's Surplus Without Apology*, 66 AM. ECON. REV. 589, 592 (1976).

[108] The points *a, b, f,* and *g* in our Figure 2 are the same as Willig's Figure 1's points *a, b, f,* and *e. Id.*

[109] Although for a price decrease CV is willingness and ability to pay ("WATP"), if the policy instead had been a price increase, CV would have been willingness to accept ("WTA"), because CV's definition is always a measure of how to hold the consumer's utility unchanged at its *original* level if the proposed policy *is* adopted. Similarly, although in the case of a price decrease EV is WTA, if the policy is a price increase, then EV is WATP, because EV's definition is always a measure of how to hold the consumer's utility unchanged at its *new* level if the proposed policy *is not* adopted. CV and EV are measured in dollars and since they only depend on holding utility unchanged, they do not require that utility be cardinally measurable, merely ordinally measurable.

[110] The terminology used in law and economics textbooks is quite confusing. In 1939, the only way of summing up value was using surplus, and so from 1939 until 1941, the Potential Pareto criterion used surplus as its measurement. Since consumer surplus was

C. Correcting the Williamson/Bork Diagram

We can now provide a technically correct analysis of the consumer part of Figure 2 consistent with the binary nature of value. In order to show that decision-making criteria using CV and EV can be inconsistent, we continue to analyze the Williamson tradeoff.[111] Suppose the initial position is a monopoly, with price p_2, and suppose the proposed policy is breaking up the monopoly, which moves price down to p_1 but raises marginal cost to MC_1.

First, as Part VI showed, the cost of breaking up the monopoly is not $hijk$ but instead $hijk$ minus $mnwt$. Next, according to Williamson, upon breaking up the monopoly, the gross benefit for the consumer would be the gain of (Marshallian) consumer value $lagk$, but since part of that gain, $lahk$, was just a transfer from the firm, the net gain to society from the fall in price is only the Marshallian deadweight

---

discovered decades before Marshall by Dupuit, one could call this the Kaldor-Dupuit criterion. *See generally* R. W. Houghton, *A Note on the Early History of Consumer's Surplus*, 25 ECONOMICA (NEW SERIES) 49–57 (1958). Then in 1941, Henderson discovered CV. Welfare economists switched to using CV as the measurement for the Potential Pareto criterion. One could call this the Kaldor-Henderson criterion. A year later, Hicks discovered EV. Hicks, *Consumers' Surplus, supra* note 104, at 128. Using EV as the measurement for the Potential Pareto criterion could be called the Kaldor-Hicks criterion. Instead, economists who respect the difference between CV and EV use the term "Kaldor-Hicks criteria" to denote the Potential Pareto taking both CV and EV separately into consideration, while economists who do not respect the difference between CV and EV, use the term "Kaldor-Hicks criterion" for the pre-1941 "Kaldor-Dupuit" version that uses surplus, which Hicks had nothing to do with.

In addition, the inequality of CV and EV, or of WATP and WTA, has nothing to do with the "phenomena known variously as *loss aversion*, the *endowment effect*, or *status quo bias*. . . . The essence of these phenomena is that individuals weigh losses more heavily than comparable gains. The evidence comes from experiments in which researchers have elicited values for changes in an item like q. However, the changes are different from those considered so far. Up to now, I have compared the WTP for some particular change in q to the WTA for the same change in q. By contrast, many of the empirical experiments compare the WTP for an increase in q with the WTA for a comparable decrease in q. As I now show, this is a somewhat different matter." W. Michael Hanemann, *The Economic Theory of WTP and WTA*, *in* VALUING ENVIRONMENTAL PREFERENCES: THEORY AND PRACTICE OF THE CONTINGENT VALUATION METHOD IN THE US, EU, AND DEVELOPING COUNTRIES 42, 66 (Ian J. Bateman & Kenneth G. Willis eds., 2001). Unfortunately, many economists have failed to recognize the distinction Hanemann rightly points out, instead believing that for a rational consumer, CV should equal EV, which is completely false. Such false understandings by economists lead to multiple serious errors in the first two pages of Herbert Hovenkamp, *Legal Policy and the Endowment Effect*, 20 J. LEGAL STUD. 225, 225–26 (1991). His definition of CV and EV in his footnote 1 is wrong. His definition of the endowment effect in his footnote 2 is wrong. His assertion that "the assumption that WP=WA is critical to the creation and use of indifference curves" is wrong as well. *Cf. id.* at 226.

[111] The Williamson trade-off was abandoned in 1997 by the Antitrust Agencies when the Efficiency section of the 1984/1992 Merger Guidelines was revised. *See* Glick & Bush, *supra* note 55, at 28.

loss, agh. However, Henderson's insight was that Marshallian consumer surplus loss overestimates how much the consumer would be willing to pay for experiencing the price decrease from p_2 to p_1. The actual $CV = WATP$ is $lafk$, so the actual social net gain from the price fall is afh. This is a correct measure of deadweight loss.

The Kaldor Criterion stipulates that one should adopt a policy if its total CV is positive. In Figure 2, the Kaldor Criterion says to break up the monopoly if the recovery of deadweight loss, afh, is greater than the net cost increase $hijk$ minus $mnwt$, otherwise do not break up the monopoly.

However, afh is not the *only* correct measure of deadweight loss; it is merely the $CV = WATP$ measure of it. The $EV = WTA$ measure of it uses instead the consumer's willingness to accept compensation for not breaking up the monopoly. With such compensation, if the good in Figure 2 is normal, as is assumed in that figure, then the gross WTA value is $lbgk$, and the corresponding deadweight loss measurement is $abgh$. This is larger than the other deadweight loss measurement afh. It is another correct measure of deadweight loss.

The Hicks Criterion stipulates that one should adopt a policy if its total EV is positive. In Figure 2, the Hicks Criterion says to break up the monopoly if the recovery of deadweight loss, $abgh$, is greater than the net cost increase $hijk$ minus $mnwt$, else do not break up the monopoly.

Call $abgh$, which is the bigger, EV deadweight loss, "DWL_b," and call afh, the smaller, CV deadweight loss, "DWL_s" ("b" for "big" and "s" for "small"). Let ΔC be the true net cost increase if the monopoly is broken up, which is $hijk - mnwt$. According to the "New Welfare Economics" of Kaldor and Hicks, if both DWL_b and DWL_s are larger than ΔC, the monopoly should be broken up. If both DWL_b and DWL_s are smaller than ΔC, the monopoly should not be broken up. However, if $DWL_s < \Delta C < DWL_b$, the analysis becomes problematic. According to the Kaldor Criterion, which uses CV and hence DWL_s, breaking up the monopoly would be bad, but according to the Hicks Criterion, which uses EV and hence DWL_b, breaking up the monopoly would be good. Accordingly, in this situation, the Kaldor-Hicks approach gives inconsistent results.

Continue to consider the problematic $DWL_s < \Delta C < DWL_b$ case. Suppose we decided to ignore the Hicks Criterion and follow the Kaldor Criterion. Then we would decide not to break up the monopoly. However, if no monopoly existed, would the Kaldor Criterion be consistent and recommend allowing a monopoly to form? To answer that question requires calculating the willingness to accept compensation for experiencing the price increase.

For a price decrease (breaking up a monopoly), we had

$$CV = WATP = lafk = afh + lahk = DWL_s + lahk \text{ [Kaldor, retain the monopoly]}$$

$$EV = WTA = lbgk = abgh + lahk = DWL_b + lahk \text{ [Hicks, restore competition].}$$

For a price increase (a merger forming a monopoly), CV and EV switch:

$$EV = WATP = lafk = afh + lahk = DWL_s + lahk \text{ [Hicks, allow the merger]}$$

$$CV = WTA = lbgk = abgh + lahk = DWL_b + lahk \text{ [Kaldor, prohibit the merger].}$$

Thus, the Kaldor Criterion would not be consistent and recommend allowing a monopoly to form. In other words, the Kaldor Criterion originally recommended allowing the monopoly, but if breaking up the monopoly happened anyway, the Kaldor Criterion judges the competitive situation to be better than the monopoly. This is a contradictory and inconsistent policy recommendation.

Continue to consider the problematic $DWL_s < \Delta C < DWL_b$ case. Suppose now that we decided to ignore the Kaldor Criterion and follow the Hicks Criterion. Then we would decide to break up the monopoly. However, if we did restore competition, would the Hicks Criterion be consistent and recommend not allowing a new monopoly to form? To answer that question calls for calculating the willingness and ability to pay in order to avoid the price increase. The paragraph before last shows that this $EV = WATP$ is small, so the Hicks Criterion recommends allowing the price increase, which means allowing the merger. Thus, the Hicks Criterion would not be consistent and recommend not allowing a merger to monopoly. In other words, the Hicks Criterion originally recommended breaking up the monopoly, but if breaking up the monopoly happened, the Hicks Criterion would recommend that the monopoly be restored. This is another type of consistency problem called "a reversal." It would lead to a cycle of breaking up the monopoly, then allowing it to re-form, again and again, without end.

D. Willig's Paper Shows that These Inconsistencies Are Feasible and Plausible

Some antitrust practitioners believe that these inconsistencies were addressed in a 1976 paper by Robert Willig (1989 Assistant Attorney General in the DOJ's Antitrust Division) entitled "Consumer's Surplus Without Apology."[112] But Willig's analysis does not alleviate the problem. The inconsistency arises from the case where $DWL_s < \Delta C < DWL_b$. If the gap between DWL_s and DWL_b is large, it is relatively

---

[112] Willig, *supra* note 107.

more likely that ΔC falls inside this gap and the problematic case occurs, whereas if the gap between DWL_s and DWL_b is small, it is relatively less likely that ΔC falls inside this gap. However, even if the gap between DWL_s and DWL_b is arbitrarily small, it is always conceivable that a problem's ΔC falls inside the gap. Willig's paper is typically interpreted as showing that the gap between EV and CV is small. However, as mentioned by Willig and pointed out by several successive authors,[113] Willig's results only pertain to the study of a single individual. They would apply to the market demand curve if a representative consumer existed, but the conditions for a representative consumer to exist are quite unrealistic.[114] These considerations greatly limit the reach of Willig's results, but it is interesting to draw out what his paper reveals about the situation of a single consumer or a representative consumer, if only to show that, even in that case, what his paper actually concludes is not the same as what many economists think it concludes (that EV and CV remain within tight limits). The textbook by Jehle and Reny expresses the conventional view, using ΔCS to denote the change in consumer surplus: "Willig (1976) studied this question. . . . The helpful fact is this: For small price changes, the size of the error

---

[113] *See generally* Anil Markandya, *The Quality of Current Approximations to the Measurement of Compensation Costs*, 30 OXFORD ECON. PAPERS 423 (1978); W. Michael Hanemann, *Consumer's Surplus Without Apology: Another Comment*, (Univ. of Cal., Berkeley, Working Paper No. 120, 1979), https://escholarship.org/content/qt30s8h0np/qt30s 8h0np.pdf [https://perma.cc/W674-4XZ8]; Peter J. Hammond, *Some Assumptions of Contemporary Neoclassical Economic Theology*, *in* JOAN ROBINSON AND MODERN ECONOMIC THEORY 186 (George R. Feiwel ed., 1989); Richard E. Just & Daniel O. Gilligan, *Compensating Variation Without Apology? Willingness-To-Pay and the Failure of Integrability*, AGRICULTURAL & APPLIED ECON. ASS'N (1998), https://ageconsearch.umn. edu/record/20814/ [https://perma.cc/65MM-AFZC].

[114] Alan P. Kirman, *Whom or What Does the Representative Individual Represent?* 6 J. ECON. PERSP. 117, 120 (1992) ("An alternative and more rigorous approach is to make particular assumptions about individuals which guarantee that the collectivity will indeed also act as an individual. These assumptions are so special that few economists would consider them plausible. Typical examples are that all individuals should have identical homothetic utility functions (that is, ones with linear Engel curves); or that all individuals should have homothetic utility functions, not necessarily identical, but that the relative income distribution should be fixed and independent of prices.").The restriction is so severe that Hands reports Paul Samuelson derisively referred to it as the homothetic Santa Claus case (albeit not in print). D. Wade Hands, *The Individual and the Market: Paul Samuelson on (Homothetic) Santa Claus Economics*, 23 EURO. J. HIST. ECON. THOUGHT 425, 426–28, 446–48 (2016). Homotheticity of the utility function turns out to be a sufficient but not necessary condition for existence of a representative consumer. The necessary and sufficient condition is due to Deaton and Muellbauer; as explained by Lozada, it is: for each household h, and for all goods i and j (which are not identical), the slope of the Engel curve for i is equal to some constant (which can depend on h, i, and j) times the slope of the Engel curve for j, plus another constant (which can depend on h, i, and j). *See generally* Gabriel A. Lozada, *A Critique of Antitrust Econometrics: Aggregation, the Representative Consumer, and the Broader Concerns of the New Brandeis School,* 67 ANTITRUST BULL. 69 (2022). This condition is unrealistic and unlikely to hold in most cases.

one makes when using ΔCS instead of CV is usually so small that one can, 'without apology,' simply ignore it." [115]

1. The Gaps Between CV, CS, and EV Widen as Income Elasticity and "Change in Consumer Surplus as a Fraction of Income" Increase

Willig's paper presents some non-approximate results, which are rather complicated, and some approximate results, which are simpler. Among the simple results, and based on a constant income elasticity η, are the following, with m denoting initial income (and also assuming that $(1 - \eta)(\Delta CS)/m$ is small): CV $\approx$ ΔCS $+ \eta \cdot (\Delta CS)^2/(2m)$ and EV $\approx \Delta$CS $- \eta \cdot (\Delta CS)^2/(2m)$.[116] The intuition most readers have obtained from Willig's paper is that CV and EV are "close to" ΔCS. From Willig's formulas, we have $(CV - \Delta CS)/\Delta CS \approx (\eta/2)(\Delta CS/m)$ and $(EV - \Delta CS)/\Delta CS \approx -(\eta/2)(\Delta CS/m)$, so such intuition relies on $(\eta/2)(\Delta CS/m)$ being "small." But it may not actually *be* small: in Willig's own Table 1,[117] $\eta/2$ can be as large as 5 and $\Delta CS/m$ can be as large as $0.25 = 1/4$, meaning that $(\eta/2)(\Delta CS/m)$ can be as large as $5/4 = 1.25 = 125\%$, which is in no sense "small."

Using the somewhat smaller parameter values of $\eta/2 = 2.5$ and $\Delta CS/m = 0.15$, the second-to-last row and third-to-last column of Willig's Table 1 gives *non-approximated* values to three decimal places of $(CV - \Delta CS)/\Delta CS = 71.6\%$ and $(EV - \Delta CS)/\Delta CS = -26.1\%$,[118] which are not "small" either. Furthermore, the non-approximated gap between CV and EV with these parameter values is $(CV - EV)/\Delta CS = 71.6\% - (-26.1\%) = 97.7\%$, a large number by any objective assessment. It is this gap between CV and EV, not their individual distance from CS, which determines whether our problematic case $DWL_s < \Delta C < DWL_b$ occurs because the size of the gap is $DWL_b - DWL_s = (EV - lahk) - (CV - lahk) = EV - CV$, using the formulas for a price increase given above. In other words, Willig's paper actually does not support the idea that CV and EV are always "close" to ΔCS, nor close to each other: they may or may not be, depending on the situation.

---

[115] GEOFFREY A. JEHLE & PHILIP J. RENY, ADVANCED MICROECONOMIC THEORY 269 (1st ed. 1998). This passage is absent in the third edition of this book. *See also* Willig, *supra* note 107, at 589 ("I derive precise upper and lower bounds on the percentage errors of approximating the compensating and equivalent variations with consumer's surplus. . . . It is clear that in most applications the error of approximation will be very small. In fact, the error will often be overshadowed by the errors involved in estimating the demand curve."). Willig's paper does not try to address the CWS's problems ethics and scope that we raised above. *Id.*
[116] Willig, *supra* note 107, at 593.
[117] *Id.* at 595.
[118] *Id.*

2. The Gap Between DWL_s and DWL_b Widens as Income Elasticity and "Change in Consumer Surplus as a Fraction of Income" Increase

Using Willig's paper, we can show that reversals and other inconsistencies are possible and show when they will occur. In our situation, for a price increase, we just used Part VII.C's formulas $CV = DWL_b + lahk$ and $EV = DWL_s + lahk$. Substituting these into Willig's approximations for CV and EV, and denoting the Marshallian deadweight loss agh as $DWL_m = \Delta CS - lahk$, we have

$$\mathrm{DWL_b} \approx \Delta\mathrm{CS} + \eta \cdot (\Delta\mathrm{CS})^2/(2\mathrm{m}) - lahk = DWL_m + \eta \cdot (\Delta\mathrm{CS})^2/(2\mathrm{m})$$

and

$$\mathrm{DWL_s} \approx \Delta\mathrm{CS} - \eta \cdot (\Delta\mathrm{CS})^2/(2\mathrm{m}) - lahk = DWL_m - \eta \cdot (\Delta\mathrm{CS})^2/(2\mathrm{m}).$$

The condition for the problematic case $DWL_s < \Delta C < DWL_b$ then becomes, approximately, $-\eta \cdot (\Delta\mathrm{CS})^2/(2\mathrm{m}) < \Delta C - DWL_m < \eta \cdot (\Delta\mathrm{CS})^2/(2\mathrm{m})$. This can be rewritten as

$$\frac{-\eta}{2}\frac{\Delta CS}{m} < \frac{\Delta\mathrm{C} - \mathrm{DWL_m}}{\Delta\mathrm{CS}} < \frac{\eta}{2}\frac{\Delta CS}{m}$$

or as

$$\frac{-\eta}{2}\frac{lagk}{m} < \frac{(hijk - mnwt) - agh}{lagk} < \frac{\eta}{2}\frac{lagk}{m}.$$

We argued above that $(\eta/2)(\Delta CS/m)$ may be small or large. If it is large, this condition is more likely to be satisfied, but even if it is small, since $(\Delta C - DWL_m)/\Delta CS$ might well *also* be small, there is no particular reason to think that satisfying this condition is rare. In other words, the "highly problematic situation" might happen in the "real world," and it would be a mistake to use consumer surplus instead of CV and EV in the erroneous belief that the "highly problematic situation" is so rare that there is no need to test whether it occurs or not. Of course, if $\eta = 0$, then the problematic case cannot occur because there is no income effect, so D_{ha} and D_{hg} are equal to D_m, $CV = EV = CS$, and $DWS_b = DWL_s = DWL_m$. Otherwise, though, the problematic case is possible, and the deadweight losses corresponding to EV and CV ought to be calculated (using, for example, the techniques in Hausman[119]) in order to check whether or not $DWL_s <$

---

[119] *See generally*, Jerry A. Hausman, *Exact Consumer's Surplus and Deadweight Loss*, 71 AM. ECON. REV. 662 (1981). We find that $(DWL_b - DWL_m)/\Delta CS \approx \eta \cdot \Delta CS/(2m)$ and $(CV - \Delta CS)/\Delta CS \approx \eta \cdot \Delta CS/(2m)$; analogous results hold for EV and DWL_s. Multiplying the first expression by $\Delta CS/DWL_b$ yields relative error $(DWL_b - DWL_m)/DWL_b \approx [\eta \cdot \Delta CS/(2m)][\Delta CS/\mathrm{DWL_b}]$. Since the change in consumer surplus is much larger than the

$\Delta C < DWL_b$ holds. (One could also use Willig's approximate formulas above in cases involving a single individual or when a representative consumer exists, when $(1 - \eta)\,(\Delta CS)/m$ is small.)[120]

E. Other Technical Problems with the Kaldor-Hicks Criteria

The first author to point out that the binary nature of value (CV and EV) could lead to inconsistencies in Potential Pareto social decision-making, as occurs in our $DWL_s < \Delta C < DWL_b$ case, was Tibor de Scitovsky in 1941.[121] For the next few decades, this problem of such reversals/"nontransitivities" in the Potential Pareto approach was the subject of considerable study. By 1978, two years after the appearance of Willig's paper, theorists Chipman and Moore, summarizing and extending those studies using rigorous mathematical methods, concluded: "the New Welfare Economics must be considered a failure."[122] Nevertheless, the use of CV and EV and the Potential Pareto approach, and, even worse, the approximation of CV and EV by consumer surplus, continued in applied work. This prompted theorists to find even more problems with the CV/EV/Potential Pareto approach.

In Blackorby and Donaldson's excellent 1990 summary of the then-current state of welfare economics,[123] the authors extend the "Boadway Paradox" to the case of production. The Boadway Paradox is the 1974 result[124] that in a pure exchange economy, moving from one point on the contract curve (the set of Pareto efficient points) to another point on the contract curve generates a sum of compensating variations which is nonnegative, and usually positive,[125] and a sum of equivalent variations which is nonpositive, and usually negative.[126] (This turns out to be due to the fact that different points on the contract curve correspond to different equilibrium price vectors.) This poses a further existential problem for the Potential Pareto approach because it means that motions from one point on the contract curve to another, which by definition cannot be Pareto Improvements, nevertheless pass the

---

deadweight loss, $\Delta CS/DWL_b$ is usually very much larger than one, and so the deadweight loss relative error is much larger than the CV/CS relative error, which is just $\eta \cdot \Delta CS/(2m)$: $(DWL_b - DWL_m)/DWL_b \approx [(CV - \Delta CS)][\Delta CS/DWL_b]$. So even in those situations which Willig wants to concentrate on, namely when $(CV - \Delta CS)/\Delta CS$ is small, $(DWL_b - DWL_m)/DWL_b$ is going to be larger than it, typically much larger. This confirms Hausman. *Id.* at 672–73 ("While the Marshallian approximation is adequate in certain situations for the compensating variation, it is often *not* accurate under these conditions for measurement of the deadweight loss.").

[120] One could also use Willig's non-approximated formulas in cases involving a single individual or when a representative consumer exists. *See generally* Willig, *supra* note 107.

[121] *See generally,* Tibor de Scitovszky, *A Note on Welfare Propositions in Economics*, 9 REV. ECON. STUD. 77–88 (1941).

[122] Chipman & Moore, *supra* note 10, at 548.

[123] Blackorby & Donaldson, *supra* note 53.

[124] *See generally* Robin W. Boadway, *The Welfare Foundations of Cost-Benefit Analysis,* 84 ECON. J. 926–39 (1974).

[125] Blackorby & Donaldson, *supra* note 53, at 476.

[126] *Id.* at 478.

Kaldor test for "Potential Pareto Improvements," and result in a contradiction between the Kaldor test and the Hicks test. Blackorby and Donaldson further show that "a positive sum of compensating variations is necessary for an improvement according to the [Potential Pareto Principle], but it is not sufficient; worse still, a positive sum of equivalent variations is neither necessary nor sufficient for a Potential Pareto Improvement."[127]

Thus, by 1990, it was clear in the welfare economics field that even in models of production, coupling the Potential Pareto approach with measurement using CV or EV sometimes identifies Potential Pareto Improvements where none exist, and generates an ordering which can fail to be complete, and which can be intransitive.

Later in the 1990s, another technical problem for the Kaldor and Hicks tests was discovered. Kjell Arne Brekke, writing in the *Journal of Public Economics*,[128] showed an example of an economy with two persons and two goods, "money" and "the environment" (which is a public good), in which a particular public policy passes or fails the Hicks Test depending on which of the two goods is chosen to be the numéraire! Choice of a numéraire is, of course, not supposed to affect any real quantity because choice of a numéraire is arbitrary. For the choice of a numéraire to affect the sign of the sum of EV's is an extremely objectionable characteristic. Further numéraire problems have been discussed by Ellerman[129] and by Bockstael and Strand.[130]

In sum, beginning in 1941, theorists have found one technical flaw after another in the CS/CV/EV Potential Pareto approach underlying the CWS and its variants. Yet antitrust economists have ignored all of these technical criticisms.[131]

---

[127] *Id.* at 483.

[128] *See generally* Kjell Arne Brekke, *The Numéraire Matters in Cost-Benefit Analysis*, 64 J. PUB. ECON. 117–23 (1997).

[129] David Ellerman, *On a Fallacy in the Kaldor-Hicks Efficiency-Equity Analysis*, 25 CONST. POL. ECON. 125–36 (2014).

[130] Nancy E. Bockstael & Ivar E. Strand, *Distributional Issues and Nonmarket Benefit Measurement*, 10 W.J. AGRIC. ECON. 162–69 (1985).

[131] There is a technical problem with our analysis of Figure 3 which should be pointed out although any solution is beyond the scope of this paper. We have shown that surplus is the wrong way to measure value because value is binary and surplus is a single number. However, when analyzing the input market, we have taken the net value of an input to be its economic rent, which is a single, surplus-type of number. This seems incorrect. We cannot straightforwardly find CV or EV for, say, a change in the wage rate, however, because CV and EV, as conventionally defined and as we have defined, pertain to a consumer who takes prices and income as exogenous, and so who can be compensated for a change in a price via a change in income, that is, money. In studying an input market, it is not income which is exogenous, but rather the consumer's endowment of inputs, such as time potentially available to work at a job. Therefore, CV and EV could not, say, measure how much more money a consumer would need to compensate for a price change, because the consumer's utility does not depend on money or on income, but rather on his endowment vector. Essentially, we have lost the ability to use income/money as the numéraire, because the endowment vector has displaced income in the consumer's problem. As Bockstael and

F. Kaldor-Hicks Has the Same Scope and Ethical Problems as the CWS

In Part II, we raised the concern that the CWS omits important components of welfare. All the variations of the Kaldor-Hicks theory have exactly the same problem: they omit the same components of welfare that Marshall's surplus approach did.

In Part III, we raised the concern that CWS treats surplus transfers between rich and poor as being welfare-neutral. This was because they took social welfare to be a sum of surpluses, $W = s_1 + s_2 + \cdots + s_n$, so that the "marginal social welfare of surplus" was constant and equal for all individuals. The Kaldor and Hicks Criteria take $W = CV_1 + CV_2 + \cdots + CV_n$ or $W = EV_1 + EV_2 + \cdots + EV_n$, respectively, so either the "marginal social welfare of CV" is constant and equal for all individuals, or the "marginal social welfare of EV" is constant and equal for all individuals. In other words, Kaldor-Hicks treat CV or EV transfers between rich and poor as being welfare-neutral. This is just as bad as treating surplus transfers as being welfare-neutral. All of these approaches ignore the distribution of dollars; they merely differ in considering the dollars as dollars of income, surplus, CV, or EV. In Part III and 0, we explained the serious ethical problems of approaches that assume W is insensitive to distribution.

In Part I0, we raised the concern that CWS is biased against the poor because richer people usually have more surplus than poorer people. Richer people usually have more CV and EV than poorer people also, so Kaldor-Hicks are biased against the poor as well.[132] In Part V, we raised the concern that the CWS uses the Potential Pareto Principle, which is indefensible. The Kaldor and Hicks Criteria also use the Potential Pareto Principle and so are subject to the same criticism. In Part VI, we raised the concern that the CWS ignores the input market. A Kaldor or Hicks analysis which ignored the input market would have the same flaw. In summary, Kaldor-Hicks share all the defects of Marshall's approach except assuming that

---

Strand put it: "It is because the consumer's problem is [usually] viewed as a utility maximization problem subject to a constraint on *income* that money measures of compensation are clearly definable." Bockstael & Strand, *supra* note 130, at 164 (emphasis in the original). This means that whatever CV or EV we come up with would not be expressed in terms of money, and so it would be impossible to compare it with the CV and EV of the output market until some sort of translation occurred. The solution proposed by Mishan is incorrect because it is based on his prior statement that "if, for convenience, we sometimes interpret good *y* as income. . . ." but income is not a good and a consumer does not have preferences or indifference curves over income. E.J. MISHAN, INTRODUCTION TO NORMATIVE ECONOMICS 88, 120, 207 (1981). The issue is raised by Bockstael and Strand when they ask, "What happens, though, when money is . . . not an exogenous constraint?" Bockstael & Strand, *supra* note 130, at 164. However, they evade facing the problem of endogenous income head-on by assuming there is additional, exogenous income received by the consumer. *Id.*

[132] *See, e.g.,* Bockstael & Strand, *supra* note 130, at 163 ("The implementation of environmental policies continually modifies the distribution of welfare, especially if compensation is not paid. Thus if the compensation criterion is used to evaluate policies, there will be a tendency toward redistribution of welfare to the wealthier.").

utility is cardinally measurable—although assuming that utility is cardinally measurable may not be a flaw, as we argue in the next Part.

VIII. MODERN WELFARE ANALYSIS: THE ALTERNATIVE TO THE CWS

The accumulation of limitations, ethical questions, and consistency problems of the Kaldor-Hicks approach—which everyone agrees is technically superior to the surplus approach, let alone to its CWS variant, which ignores input markets—has led to the virtual extinction of interest in the Kaldor-Hicks approach among welfare economists. In the 1957 edition of Little's book on welfare economics, the Kaldor-Hicks approach merited mention on thirty-one pages, about ten percent of the book.[133] By 1985, two chapters by welfare economists surveying the field, taking up a total of sixty-five pages, mentioned the Kaldor-Hicks approach only in one passage spread over two pages—and that passage was devoted solely to criticizing Kaldor-Hicks.[134] A 1991 four-hundred-page-long text on welfare economics mentioned Kaldor-Hicks on just a single page (again, a critical mention).[135] In the twenty-first century, Kaldor-Hicks gets no mention in the two-hundred-ninety-one-page-long 2009 final report of The Commission on the Measurement of Economic Performance and Social Progress, generally referred to as the Stiglitz-Sen-Fitoussi Commission.[136] It is also not mentioned in the 2013 book on welfare economics by Fleurbaey and Blanchet.[137] The surplus or Kaldor-Hicks approaches have been replaced by two alternatives: the social welfare function approach and the capabilities approach. These approaches reflect the realization that, as Paul Samuelson put it: "You cannot obtain an ethical result without already putting an ethical premise in the proposition from outside."[138] Proper welfare economics cannot be value-free, so in these approaches, ethical positions are declared openly and explicitly.

Another characteristic of modern welfare economics is that it often incorporates emerging economic and psychological studies of the factors that impact well-being or quality of life. We believe that antitrust economists should embrace these developments. If they do, populist goals can be subjected to direct scrutiny. They will not be unfairly excluded even from consideration because of the assumptions of the CWS theoretical standard.

---

[133] I. M. D. LITTLE, A CRITIQUE OF WELFARE ECONOMICS (2d ed., 1957).

[134] Peter Hammond, *Welfare Economics, in* ISSUES IN CONTEMPORARY MICROECONOMICS AND WELFARE 407–08 (George R. Feiwel, ed., 1985).

[135] Peter J. Hammond, *Interpersonal Comparisons of Utility: Why and How They Are and Should be Made, in* INTERPERSONAL COMPARISONS OF WELL-BEING 201 (Jon Elster & John E. Roemer, eds., 1991).

[136] STIGLITZ, SEN & FITOUSSI, *supra* note 12.

[137] MARC FLEURBAEY & DIDIER BLANCHET, BEYOND GDP: MEASURING WELFARE AND ASSESSING SUSTAINABILITY (2013).

[138] Suzumura & Samuelson, *supra* note 51, at 336.

A. Defining the Social Welfare Function Approach and the Capabilities Approach

To explain the social welfare function approach, suppose that u_1, u_2, …, u_l represent the utility functions of each of the l people in a society; we need not specify on what these functions depend. A "welfarist" policy maker only cares about these u's, and acts to maximize some function $W(u) = W(u_1, u_2, …, u_l)$ which, to quote Mas-Colell, Whinston, and Green, "aggregates individuals' utilities into social utilities."[139] The function W is called a Bergson-Samuelson social welfare function.

As Bucovetsky[140] points out, there are many different social welfare functions, including the Utilitarian, $W = u_1 + u_2 + \cdots + u_l$, and the Rawlsian, $W = \min (u_1, u_2, …, u_l)$. An important example he does not mention is the weighted Utilitarian form, $W = \alpha_1 u_1 + \alpha_2 u_2 + \cdots + \alpha_l u_l$, where the α's denote weights put on individuals. This form of the social welfare function embodies the way tradeoffs will be made between the utilities of different people. Bucovetsky continues: "The social welfare function is supposed to be a way of representing the decision-making of someone who is ranking the various possible allocations. This someone could be a politician, administrator, outside evaluator, voter, or anyone who has an opinion about the best policy for the economy in question."

In the social welfare function approach, the functional form of W is often made explicit. This requires making choices about specific forms not only for W but also for the individual u's, which specify how individuals will be assumed to make tradeoffs between various consumption goods. These functional forms may have to incorporate probabilities.

Among welfare economists and moral philosophers, there are some particularly popular axioms that are applied to social welfare functions.[141] One almost-universally applied axiom is that the social welfare function does not leave anyone's welfare out; this is called "monotonicity." Another is that is no social prejudice: that is, reordering who gets what does not change W. This is called "symmetry" or "anonymity."

Nobel Prize economist A.K. Sen developed the capabilities approach, which is used around the world in analyzing quality-of-life metrics.[142] In the capabilities approach, social welfare W is not seen as a function of individual utilities. Therefore, this approach is not welfarist, and W is not a Bergson-Samuelson social welfare function. Instead, W is a function of the opportunities which individuals have to achieve a good life. The capabilities approach often does not specify an explicit functional form for W, making its assessments qualitative rather than quantitative,

---

[139] MAS-COLELL ET AL., *supra* note 82, at 825.

[140] Sam Bucovetsky, *Welfare Functions*, *in* LECTURE NOTES ON GENERAL EQUILIBRIUM AND WELFARE ECONOMICS, http://www.yorku.ca/bucovets/2350/lectures/34.pdf [https://perma.cc/G6T8-KSYY] (last visited Jan. 19, 2023).

[141] For a list of common axioms, see *Social Welfare Function: Axioms of Cardinal Welfarism*, https://en.wikipedia.org/wiki/Social_welfare_function#Axioms_of_cardinal_we lfarism, [https://perma.cc/R2ZG-B75Z] (last visited Jan. 15, 2023).

[142] STIGLITZ, SEN & FITOUSSI, *supra* note 12.

although it does use quantitative measurements of each of the capabilities when those measurements exist. According to Sen:

> The functionings relevant for well-being vary from such elementary ones as escaping morbidity and mortality, being adequately nourished, having mobility, etc., to complex ones such as being happy, achieving self-respect, taking part in the life of the community, appearing in public without shame (the last a functioning that was illuminatingly discussed by Adam Smith). The claim is that the functionings make up a person's being, and the evaluation of a person's well-being has to take the form of an assessment of these constituent elements.[143]

Sen's approach is part of the movement to use objective evidence to determine what factors matter to human welfare and how much they matter. The foundation for such studies comes from John Harsanyi and Daniel Kahneman. Harsanyi, a Nobel Laureate in economics, offers a solution to interpersonal utility comparisons that undergirds modern empirical analysis of welfare. Harsanyi's "similarity postulate" contends that all humans share a common genetic past that has created a close similarity in how humans experience life. This means that common experiences typically have similar impacts on subjective welfare.[144] Kahneman, another economics Nobel laureate, and his colleagues have also provided an axiomatic defense for the use of objective empirical studies of experienced happiness.[145]

B. A General Approach to Modern Welfare Economics and Antitrust

Clearly, the issues that policy makers face when establishing competition policies involve multiple aspects of human well-being. They involve economic welfare and non-economic dimensions of well-being, including people's political life, their health, whether life is better with a vibrant small business sector, how time is spent, etc. Except if following the Pareto Principle, when policy choices are made, there are winners and losers, particularly when litigation is involved, and there are tradeoffs between multiple goals. An appropriate social welfare function would be comprehensive and difficult to construct. Specifying a full-blown social welfare function is not realistic for antitrust, but the principles used to construct a social welfare function are important: no materially affected groups are ignored, and all contributions to well-being, pecuniary and non-pecuniary alike, are considered.

We propose a shortcut to developing a full-blown welfare analysis for antitrust. It consists of identifying important issues that affect human well-being that can be

---

[143] Sen, *supra* note 13, at 36–37.

[144] John C. Harsanyi, *Morality and the Theory of Rational Behavior*, 44 SOC. RSCH. 623 (1977); John C. Harsanyi, *Utilities, Preferences and Substantive Goods*, 14 SOC. CHOICE WELFARE 129 (1996).

[145] Daniel Kahneman, Peter P. Wakker & Rakesh Sarin, *Back to Bentham? Explorations of Experienced Utility*, 112 Q.J. ECON. 375 (1997).

influenced by antitrust policy. When there is sufficient social science evidence that these concerns indeed are key components of human welfare, and can be affected by antitrust policy, then they should be considered, along with the CWS concerns of price, innovation, and choice.

We do not endorse any particular welfare outcome. We merely contend that when objective evidence accumulates and becomes compelling concerning welfare effects, this information should inform economists' attitudes toward the importance of different policy goals. It seems sensible that where strong evidence exists that a policy goal, such as a reduction in inequality, is welfare-increasing, and if competition policy can be effectively used to advance that goal, then the goal is a proper subject for antitrust enforcement.

CONCLUSION

The Consumer Welfare Standard is simply too narrow, too biased, and too unreliable to remain a standard that courts and antitrust policy makers follow. Even the most important traditional antitrust goals and those that motivated Congress to pass the antitrust statutes in the first place are now firmly located outside the Consumer Welfare Standard's narrow bounds. While the Consumer Welfare Standard has served the goals of the Chicago School and its political adherents well, it has done so only at a great social and economic price, and only by embracing unreliable assumptions.

There is an alternative: modern welfare economics. It is able to incorporate modern research on the factors that contribute to human well-being and quality of life, and so would provide a good framework with which to start working out the best way to evaluate competing antitrust goals.

Our proposal is clearly only able to open, not conclude, debate. Much work would have to be done to resolve tradeoffs between the benefits and costs of mergers. Moreover, judicial resources are limited, so rules and presumptions would also have to be formulated. A satisfactory conclusion of these efforts may only be arrived at with the aid of years of experience under an increasingly broad and improving but still imperfect antitrust regime. However, at least many important goals of antitrust would no longer be set aside simply because of a misreading of economics.